AMERICAN RAILWAYS AS INVESTMENTS

CARL SNYDER

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In Preparation

THE MECHANISM OF THE STOCK MARKET

An Inductive Study

AMERICAN RAILWAYS AS INVESTMENTS

A Detailed and Comparative Analysis of All the Leading Railways, from the Investor's Point of View; With an Introductory Chapter on

THE METHODS OF ESTIMATING RAILWAY VALUES

BY

CARL SNYDER

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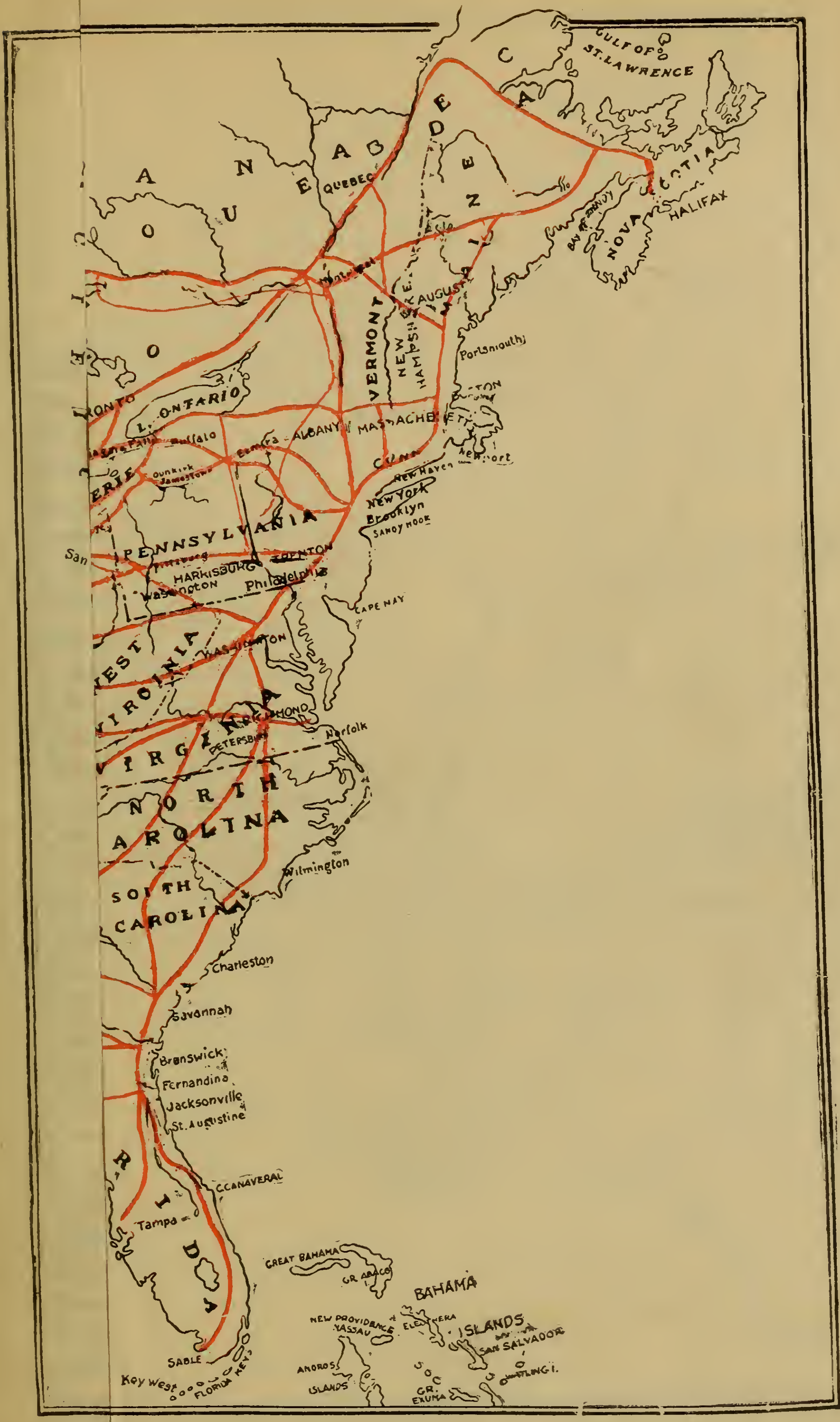
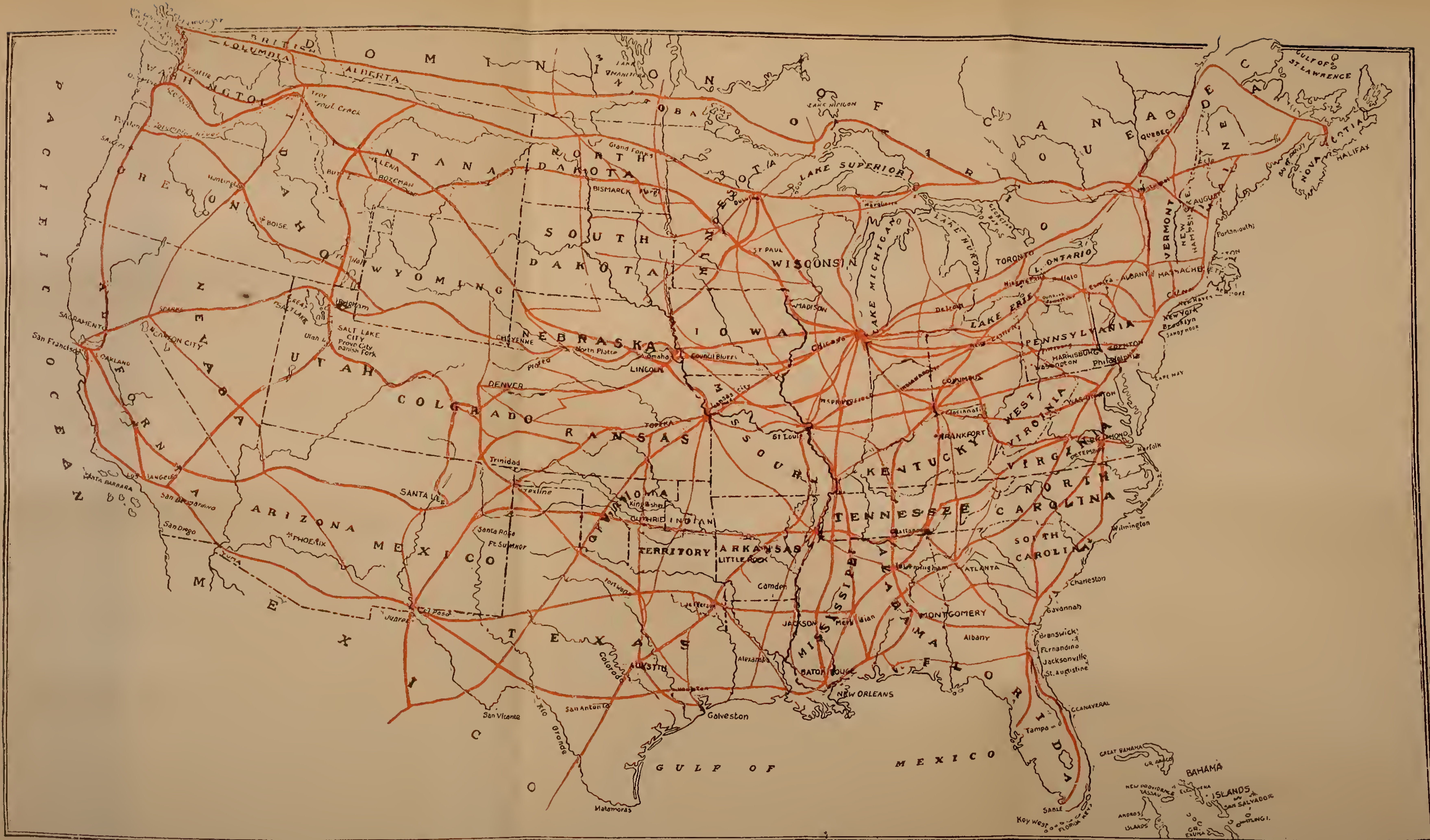
"How did I make my fortune?

"By never trying to buy at the bottom and by always selling too soon."

—ROTHSCHILD



plement to “American Railways



Diagrammatic Railway Map of the United States, showing the main systems and the routes of traffic. Supplement to "American Railways as Investments" by Carl Snyder. Published by The Moody Corporation.

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FOREWORD

The aim of this work is to provide the general investor, the banker and the investment broker with the means whereby he may judge intelligently and readily, so far as the accessible facts will permit, of the value of the securities of the different railroads passed under review. The volume covers the operations of nearly 200,000 miles of road, or about 90% of the total for the country.

More especial attention, and detail, has naturally been given to the more important lines and systems, on the theory that they present greater opportunities for safe investment, greater stability, wider fluctuations in value and therefore larger opportunities for profit, with less liability to suffer from the minor accidents of trade reverses, manipulation or bad management.

At the end of each analysis or review, conclusions and opinions are offered, but only for what they are worth; that is to say, all the material facts upon which these conclusions are based have been given in full. The details, the figures, the tables are there; the investor may therefore judge for himself as to the validity of the conclusions reached. The inductions offered are suggestions and nothing more.

The aim has been to provide the broadest possible basis of judgment, to offer the largest perspective, to cut out that which is evanescent, not to look at last year's results or this year's conditions merely, but to consider what has been done through a series of years, and under varying conditions. Only in this wise is it possible to frame any intelligent opinion of the future. Tendencies do not rapidly change. Established roads do not suddenly become great earners; they do not as a rule radically change their policies, save under a radical change of ownership.

On the other hand, companies do not default their bonds, they do not pass their dividends, unless conditions have been preparing for such a result. Given a reasonable degree of honesty

in the published reports and these possibilities may be more or less foreseen.

Throughout, especial emphasis has been given to the elementary fact that Operating Ratios, Surpluses, Per Cent of Surplus on Stock, and all their like are for the most part *simply matters of bookkeeping* and often little more. Earnings may be concealed, operating expenses may be heavily charged for improvements, or maintenance may be slighted. It is the business of this book to consider all these questions in each case, and to state all the facts that are known.

Especial attention has been given to the matter of maintenance and to the sums devoted to improvements from earnings. To permit of an intelligent judgment as to these matters, reliance has not been placed upon the charges for one year or two years, but for a series of years, compared each year with the traffic density. The showings for the different years are then *averaged,* and this average is in turn compared with an exactly similar average of four, five or six other roads in the same territory, with the same general character of traffic, and therefore with the same general needs.

It is in this manner that the nominal surplus profits shown in the reports are judged, and conclusions formed as to how far the percentage which these profits show on the stock are real profits or not.

Questions as to capitalization, style of capitalization, increase of capitalization, the relation of capital to net earnings, the proportion of fixed charges to total net income have been considered in much more detail than is customary, in the belief that these items are highly significant and vital.

Particular consideration has been given to the Factor of Safety or margin of income over fixed charges. In the judgment of bond values this factor is of primary interest. The small investor, in particular, has a just dread of receiverships and reorganizations. He will be perspicaciously shy, therefore, of securities on which cessation of interest payments have ever been threatened, no matter how valuable, intrinsically, may be the property on which these securities are a lien.

In the same manner, the investor in stocks, common or preferred, has a vital interest in knowing how far the earning

capacity of the road may be impaired before dividends are endangered.

In each case the treatment has been uniform, so as to permit of rapid comparisons and ready reference, the exposition following the appended

General Scheme.

Importance and notable characteristics.
History.
Territory (Mileage, etc.)
Ownership (Directors, number of shareholders).
Affiliations (Community of Interest).
Capitalization (Including Rentals, Leases, etc.).
Value of Equities Owned.
Style of Capitalization.
Increase of Capitalization from 1900.
Character of Traffic (Passenger Earnings, etc.).
Stability of Earnings.
Maintenance (amount of extra work, etc.).
Improvements from Earnings.
Surplus Earnings.
Dividend Record (and "rights").
The Balance Sheet, Profit & Loss account.
Investment Value (Price and Yield).

It will be seen that the present work is as different as possible from the ordinary manual, which, however valuable it may be, is not always used to the best advantage by the general investor, who has no time for exhaustive study nor to acquire the training that is requisite for its most intelligent use.

The aim has been to present an exposition which any reader may follow with understanding, no matter if he has never seen a railroad report or never purchased a railway bond or a share of stock. There is no mystery about railway management or bond or share values and if there be any mystery about a company's securities, or if its reports are not adequate and clear, the general investor will do well to let its issues alone.

ACKNOWLEDGMENTS.

A full expression of obligation is due the authors and proprietors of the following publications, for their free use in the preparation of this work:

Moody's Manual of Railroads and Corporation Securities, published by The Moody Corporation, New York.

Poor's Manual of Railroads, published by Poor's RR Manual Company, New York.

The Financial Review, published annually by The Commercial & Financial Chronicle.

The Wall Street Journal, New York.

The Railroad Gazette, New York.

The Railway Age, Chicago.

"Earning Power of Railroads," Floyd W. Mundy, published annually by Metropolitan Advertising Co.

Mr. Mundy's handy little manual presents an original analysis of the income account of all the important companies, together with an analysis in percentages of the distribution of the gross income of each road over the various items of maintenance, cost of conducting transportation and surplus. This very useful publication is now in its seventh year.

Readers who are interested to go further will find Mr. Thos. F. Woodlock's "Anatomy of a Railroad Report" a wonderfully clear and compact exposition of the subject; it includes also an illuminative discussion of ton-mile costs and the reduction of railway expenditures to their elementary units.

In his "Art of Wall Street Investing," Mr. John Moody has dealt broadly and sensibly with much the same subject which is dealt with here specifically and concretely; and Mr. Thomas Gibson in his "Pitfalls of Speculation" has presented a sufficient warning to those who prefer to "speculate" (that is, gamble) rather than invest, showing that 90% of marginal accounts result in a loss. An admirable review of "The Work of Wall Street" has been presented by Mr. Sereno S. Pratt, well known as the editor of the Wall Street Journal.*

Many items of historical interest have been drawn from the descriptive work, "American Railroads as Investments," by S. F. Van Oss, published 15 years ago. Thanks are also due to several railway friends for their kindness in looking through different chapters and for suggestions and criticisms offered.

* A very complete catalogue of financial works, including all of those here named, is published by The Moody Corporation and will be supplied post-paid upon application.

INTRODUCTION

The Methods of Estimating Railway Values

The railways of the United States, reckoned together, represent the largest single "vested interest" in the world. Their nominal capitalization, stocks and bonds, now amounts to more than fourteen thousand millions, or, in American notation, fourteen "billions" of dollars. On these securities about five hundred millions are paid annually in interest and dividends: $300,000,000 in interest, and $200,000,000 in dividends. Capitalizing this at the prevailing savings bank rate of interest (4%), would represent a cash valuation of twelve and a half billion dollars. This is an average of $150 per capita, or $750 for every family in the United States.

These securities, and especially the railway stocks, it is well known, are subject to very wide fluctuations in value. This may amount in the aggregate to a perfectly enormous sum. Thus from the highest point in 1902 to the low point of 1903-4, the average fall in railway shares was 30%. The rise from the low point of 1903-4 to the high point of 1905-6 was over 50%.

Nor were these enormous fluctuations confined to the weaker class of stocks. Below is a list of a dozen standard railway stocks showing their extreme range in price through seven years:

	LOW 1900	HIGH 1902	LOW 1903-4	HIGH 1905-6	LOW Mch. '07
N. Y. & New Hav.	207	255	185	216	173
N. Y. Central....	125	168	112	167	112
Pennsylvania	124	170	110	148	114
Reading	15	78	37	164	91
Lackawanna	171	297	230	560	445
C. & N. W.......	150	271	153	249	*138
St. Paul..........	108	198	133	199	*123
Ills. Cent........	110	173	125	184	134
Louis. & Nash....	68	159	95	157	108
Atchison	18	96	54	110	83
Union Pac.......	44	33	65	195	120
Gr. Northern.....	144	203	160	348	*126
Average....	107	191	121	224	147

*Ex. valuable "rights."

It will be seen that this dozen standard securities rose in two years from an average value of $107 per share to $191 per share, then declined within a year to an average of $121 per share, then rose again in eighteen months to almost double this figure, and fell in 1907 to an average of $147 per share.

The peculiar fact about this enormous change in values was that it had little to do with the actual earnings or the conditions of the railways themselves. Throughout this entire period there was practically no decrease in railway earnings, nor in railway profits; on the contrary, each year of this period proved either equal to the preceding year, or showed a handsome increase.

These fluctuations present very large possibilities for gain; equal danger of loss. They vitally affect a very considerable number of people. The rather unsatisfactory census of railway stockholders, taken by the Interstate Commerce Commission, showed between three and four hundred thousand shareholders of record in the United States. The actual number must be considerably higher. Moreover, a large proportion of railway shares are held by trust companies, banks and the like, whose stocks in turn may be widely distributed.

It is a very well known fact that it is the general habit of the "public," the outside investor, to buy at the top, and to sell, when he does sell, at the bottom. Obviously this is reversing the Rothschild "golden rule."

In this book I wish to provide a work whereby the investor, instructed or not, may look at the market quotations of a given stock and, within broad limits, determine for himself whether this stock is cheap or dear, whether it be a good time to buy, or if he holds stocks, to sell. It is evident enough that this can be done only in a broad way and under reasonable reserves. But what is certain is that securities tend to vary far more widely than anything in their earnings, conditions, or prospects would naturally determine.

There is apparently an ineradicable tendency to over speculation, fostered always by clever manipulation by practised hands. This results in an inflation of prices beyond just values. The point is always reached where the bubble is punctured; the result is a violent fall. In a broad sort of way, here as elsewhere, action and reaction are equal. The price of shares tends to fall as much below their real worth as it had been raised above.

In other words, the curve of stock quotations tends constantly to cross and recross what may be termed the *Line of Value*. It is

the object of this work to enable the investor to estimate the Line of Value for a given stock. By reference then to the course of prices for the preceding six to eighteen months, he may gain some idea as to whether these prices are high or low.

It is only by this means that an investor may effect his purchases with intelligence and foresight. It is the inevitable tendency of the human mind *to believe that prevailing conditions will last.* If prices are falling, it seems natural to believe that they will keep on falling, or at least "go lower." If they are rising, they are always to "rise a little more." The fortunes of folk with faith like this do not grow.

Again, there are countless foolish people who think that *values* do not determine prices. They have their justification in the very obvious fact that the prices, of railway shares especially, go up and down with no seeming reference to the actual interest they yield, and often fall heavily in the face of every indication of solid worth.

In consequence of this fact many men believe that the rise and fall of prices is entirely due to "Wall Street manipulation." They think they have simply to rely upon luck or "tips," forgetful that luck is generally on the side of the shrewdest player, and that tips are usually distributed that credulous folk may buy, when the "insiders" or the "pools" wish to sell.

They do not *invest*: they hardly even *speculate* in the true sense of the word. They are simply gamblers and nothing more; and this applies just as much to the solid investor who makes a purchase on some one else's say-so as to the fatuous army which chases fortune upon "the Street" with margins.

The demonstration that in a broad way prices do follow values is simple in the extreme. We have merely to take, say, twenty standard roads and set forth the amount of surplus income over fixed charges, that is, the sums annually available for dividends or improvements, as shown through a series of years, and find what per centage these sums represent, each year, on the combined capital stock of the roads under view. This series of percentages may then be plotted out in a diagram and we get what may be termed the Line of Value. If now, at the same time, we take the average market price of the stocks of these same twenty roads, we may from this series of averages plot another curve, which we may term the Line of Price.

It is inevitable that in a broad way these two lines should be parallel. This is not saying that the Line of Price will follow the Line of Value from month to month or even from year to year; but for a series of years it must. There will be intervals of deviation, and it is precisely these deviations which enable the investor to determine whether prices are high or low.

He cannot look forward and determine whether next year's earnings will be great or small, but he can be certain that if the earnings continue good and prices are low, prices will rise. In other words, if the Line of Value and the Line of Price are wide apart the direction of one or the other will inevitably change.

The construction of such a chart would have shown that 1902 was a time for wise folk to sell out and give their money to the loan brokers to lend to foolish people at high rates of interest. When prices had fallen 30% in 1903-4 and the rates for money had likewise fallen 30 to 40% it was a time to buy. A stock like St. Paul, comfortably earning seven per cent. and putting the proceeds of flush years by in improvements, is easily worth $140 to $170 according to the prevailing rates of interest. If the price is run up to $200 per share and at the same time money commands five to six per cent., it is obviously an inflated price and no one but gamblers or imbeciles will buy it at such a price. When it has fallen to below $140 a share, and money has fallen to between three and four per cent. and the road's earnings and prospects are just as good or better than they were, it is obviously a bargain which foresighted folk will snap up; and that is what wise folk did. It rose again to $198 per share in 1906. With money at five or six per cent., and other prospects remaining about the same, it was again a good time to sell.

The simple fact is that investing is a business; but not one investor in fifty will give to his investments anything like the care and attention which he gave to the particular business through which his surplus funds were earned. Instead of studying values for himself he will seek advice and "tips."

If the investor is able to secure the wholly disinterested advice of some competent investment banker or broker, he may fare very well. For those who have no such connections, and for investors in general, this book has been planned. It does not follow the dry-as-dust path of the average railway report, nor the average railway analysis, but endeavors greatly to simplify the subject, and to strike out somewhat new and original lines.

Elementary.

The problem of railway valuation is comparatively simple, and beyond the reach of but few. A railway is primarily a carrier, a carter, a drayman. Obviously then, in considering an investment, we shall ask, What sort of a road has it? What sort of vans and what sort of horses? What sort of trade? A teamster doing business on a fine level macademized road, with big, heavy vans, and heavy draft horses, can work at a profit, and underbid a carrier with old vans and poor horses, working on roads of heavy grade. So, for example, a railroad, other things being equal, with a water grade like the New York Central, has a tremendous advantage over an up and down grade like that of the Erie. The Illinois Central can do business much more cheaply than the Missouri Pacific. A road with a magnificent equipment like the Lake Shore can undercut a poorly equipped road like the Nickel Plate.

The initial facts that we wish to know of a railway then are, What sort of a road has it; what is its traffic; does it get good rates? When we know what business it does, what its earnings are, then we shall ask how it is capitalized, what are the fixed charges these earnings have to bear, what is there left, and the amount of stock which has to share the surplus. We shall ask if its earnings are stable; if the maintenance is adequate, if the policy of the road is conservative, if its management is good or bad. When we have done all this, then we shall go into the market, ask the prevalent rate of money, and by a simple rule of thumb, we shall know, in a broad way, whether the stock is cheap or dear.

Yield and Value.

But such would be an exhaustive analysis, which few would care to make. And, in reality, there are, in the end, only three or four main facts which the investor wishes to know. If he is purchasing bonds he will want to know their price, their yield, their security. The case is not radically different for the purchaser of stock; but here he will look more to earnings, more to the future; in the primitive sense of the word, he will *speculate* a little on future dividends and future values.

The investor in stocks takes a larger risk than the purchaser of bonds. Therefore, he will expect a higher rate of interest, a higher return for his money, and he will make his purchases not merely with an eye to dividends, but to increment in the value of his holdings as well. It follows, therefore, that the purchaser of stocks will

wish to know more about the condition of the road, its management, its prospects. He will consider the price of the stock, the immediate return on his money, and the chances for enhanced value.

We may briefly pass in review the more important items which he must consider.

The Value of a Road.

Obviously, the first question that an intending purchaser of railway securities would like to have answered is the real or approximate valuation of the property. If, for example, a man wishes to buy an interest in a grocery store or a wayside inn, he reckons up the value of the land, buildings, its past earnings, and the possible appraisal of the good will of the business.

With a railway it is more difficult. One may frequently read in the financial journals or in the literature sent out from investment houses that such and such a road, as for example, the Mexican Central or Canadian Pacific is "very cheap," because it is "selling" for only so much per mile. For the most part, these reckonings have only mediocre value; frequently they are utterly misleading.

It is customary to take merely the nominal capitalization of a road, to reckon its bonds at par, the stock at its market value, and then to divide the sum so obtained by the " number of miles operated." It is rarely that the underlying bonds, guarantees and rental contracts are considered. This may lead to perfectly fantastic results. For example, the nominal bonded indebtedness of the Lackawanna is only $3,000,000, and this, with its $26,000,000 of stock, gives a nominal capitalization of only $29,000,000. This, on its 770 miles of road operated gives a very low capitalization per mile. Upwards of $90,000,000 of underlying bonds, etc., to say nothing of the capital stock of leased portions of the system, for which the Lackawanna pays $5,000,000 per year rentals, are entirely ignored.

Obviously, if in the comparison of the mileage capitalization or mileage selling value of different roads, one has a large accumulation of underlying bonds, which are left out of the reckoning, while another owns outright every mile of its track, the comparison becomes utterly worthless.

The subject of capitalization, and more radically still of over capitalization, is indeed one of the most baffling questions of railway economics.

Let us take the fore part of the problem and ask, for example,

What is the mileage capitalization of the New York Central? For 1906 it reported:

Stock.........	$178,000,000
Bonds.........	$230,000,000
Total........	$408,000,000

But in the bonded indebtedness is included 110 millions of collateral bonds, issued in exchange for stock of the Lake Shore and the Michigan Central roads. There were 5½ millions of debentures employed in a similar purpose. Excluding these, the funded debt becomes only $115,000,000. The road actually owned by the New York Central is only 807 miles, so that, excluding its Lake Shore and Michigan Central purchases, the capitalization amounted to $370,000 per mile.

Turning to the balance sheet, however, we find an entry of "sundry stocks and bonds" whose cost valuation was $143,000,000. Deducting the $110,000,000 considered above, this leaves $33,000,000 more to be taken from the nominal capitalization.

But New York Central stock in the fiscal year 1906 sold at an average of 40% premium (i.e., at 140), which would add $71,000,000 to its "selling" value, still leaving a net of rather more than $300,000 per mile. This is an enormous sum, considering that the average capitalization of all the railroads in the country is only about $66,000 per mile.

As a matter of fact, the New York Central operates directly 3,700 miles of railroad. By dividing by this figure instead of by 808, the amount per mile naturally is cut down to less than a quarter.

We may go still further. The New York Central operates 1,300 miles of double track and 700 miles of third and fourth tracks, to say nothing of 2,300 miles of siding, giving a total of 8,100 miles. But if, in estimating the capitalization, we are to consider mileage operated, and not mileage owned, obviously we must include the stocks and bonds of the leased lines. Turning to the income account, we find that the rentals of the leased lines exceeded the interest of the funded indebtedness by more than $1,000,000. This is just as much of a "fixed charge" in the operation of the road as its nominal funded debt. It is exceedingly difficult to get at the valuation of these leased lines. Their capital stocks amounted to more than $90,000,000, their funded debt to more than $110,000,000, at last account. This would add a total of $200,000,000 to the actual capi-

talization of the road. The operating company actually pays an average of over 4¾% in rentals on this sum. Roughly then, we may state the net capitalization of the road at around $460,000,-000. This would represent a capitalization of over $120,000 per mile of road operated.

The current premium on various stocks and bonds of the system would probably increase this amount by $100,000,000, which would place the selling value at around $140,000 per mile.

This is still a high figure. It is probable that the 8,000 miles of track and sidings of the road, with present equipment, could easily be replaced for $30,000 per mile, or around $250,000,000. Even allowing $100,000,000 more for right of way and terminals, the selling value would represent a premium of much over 50%.

It is clear that this method can lead to no results of any practical interest to the investor. What he wants chiefly to know, here, is the earning power of the capital represented, and this can be reached in a very simple way. This consists in estimating, as nearly as possible, the actual net capitalization of a road, and then finding what percentage the net earnings represent upon this amount. If the percentage is low, the capitalization obviously is high, and vice versa. But in order to determine this figure, we must first of all know

What Is True Capitalization.

Enough has already been said to make it clear that the nominal capitalization of a road often in no wise represents its actual capitalization. It is evident, for example, that a holding or leasing company might be formed to take over the Pennsylvania or New York Central, and pay simply a rental. The rental might be enormous; the amount of underlying stocks and bonds would correspond; but the capital of the leasing company might be small. To some extent this is actually realized with a number of roads.

On the other hand, the apparent capitalization of the company might be enormous compared with the traffic earnings of the mileage operated, while a large part of this capital might be represented in the securities of other roads. Obviously, to reach a just estimate of capitalization, the value or cost of these securities should be deducted from the estimate of the gross. In the endeavor to reach something like a just estimate of capitalization the following plan has been adopted in this work:

The nominal amount of stocks and bonds of a given road has

been added together; then rentals paid have been capitalized at 4% and these two amounts added together. It is obvious that in making a lease of another road, this leasing usually being the equivalent of an absolute guarantee, the leasing lines will pay something like the prevailing savings bank rate of interest on the actual earnings of the line. In general practice the present day leasing basis is about 4%. We have then simply to take the rentals paid on leased lines, multiply this by 25, and then add this amount to the nominal issue of stocks and bonds. This gives an estimate of what we may term Gross Capitalization.

We have then merely to turn to the General Balance Sheet, and find the Securities Owned, together with the amount at which they are carried on the books of the company. This latter figure is generally the cost price of the securities. If the investment has been judicious, it will oftentimes happen that the actual value of the securities is very much greater than the book value. Wherever this can be determined, it will be indicated. On the other hand, if the investment be large, it is probable that, as with any other business, some of the securities will not have turned out well. It may even happen that their book value may be excessive. But in a general way, with the excellent management which characterizes American roads, it is safe to say that the book valuation is generally below rather than above the actual valuation, and we shall not go far wrong in considering this book valuation as a conservative figure.

In order to determine the Net Capitalization, then, we have only to deduct the value of the securities from the estimate of Gross Capitalization as above obtained. This will give us something like the actual amount of capital invested in the mileage of road operated. If we now divide the figure so obtained, by the number of miles operated, we shall have an estimate of the Net Capitalization per mile, and this may be used as a basis of comparison with that of any other road desired.

"Mileage Operated."

It is evident, however, that the capitalization of a double track road will be, on the average, very much higher than that of a single track line. In making a fair comparison, therefore, we must consider the miles of extra main track owned or operated. The simplest way is to reduce this figure to a percentage of the first or main track. In stating the "mileage operated," in a railway report,

it is the total length of a single line operated which is given, the mileage of extra track being disregarded. With this fact, however, clearly in mind, and with the corresponding figures in hand, we shall be able, if we like, to compare the capitalization of the Pennsylvania with the Texas Central or any other line.

But it is further evident that a road doing a large business, earning ten or twenty thousand dollars per mile, in gross, will be capitalized at a much higher figure than a small road earning a thousand dollars or so per mile. There is, however, a simple way of reducing the capitalization question to a very clear basis. That is, comparing the Net Earnings with the estimated Net Capitalization, and finding what percentage the Net Earnings represent, on the figure thus found.

Taking all the roads of the United States together, it is found that the Net Earnings represent about 6% on the Net Capitalization. This figure is not absolute. All roads do not follow identically the same method of accounting, and this introduces some element of error. Probably if the actual figure could be reached, or computed, it would be slightly higher than this. But in a large way it may be said that the railroads of the United States are capitalized on a basis of 6% of their Net Earnings. This is a low figure and it means that the railway capitalization of the country is rather high. In comparing the capitalization of a given road obtained on this basis, we say that if the percentage falls below this figure, it is over-capitalized, and it will be in the favor of a road if this percentage is higher than 6%.

It might be expected, however, that the older roads like the Pennsylvania and the New York Central will have a very much higher capitalization than newer lines, especially in the West. As a matter of fact, we shall see that there is here no general rule, and that old established lines like the Delaware and Lackawanna may be capitalized on a much lower basis, that is to say, show a much higher percentage of net earnings on net capital than even some Western prairie roads whose construction was cheap and rates high.

It is needless to remark that there is a very distinct relationship between earnings and capitalization, and that in general, the higher the earnings compared with the capitalization, the solider will be the securities of the road, the larger its dividends, the higher the price of its stock.

Style of Capitalization.

There is, however, an item quite as important to consider as the simple question of capitalization, and that is the form which this capitalization takes. It is evident enough that the larger the share of the outstanding securities represented by bonds or by leased lines whose securities are guaranteed, the larger will be the proportion which the Fixed Charges consume from the Surplus Earnings. Conversely, the larger the amount represented by stock, the better the position of the road to meet dull times. In considering the value of a given stock, or bond, therefore, we shall consider this proportion; we shall want to know what percentage of capitalization is in stock, and what percentage is in bonds.

Going a step further, we shall ask what are the Fixed Charges, including in these Fixed Charges rentals and guarantees. We shall add to the Net Earnings the amount of "other income," that is to say, the sums derived from interest on securities held, from properties leased, or rented, and from various sources, and in this way we shall obtain an item known in the railway reports as Total Net Income. Then we shall find out how much of this Total Net Income is consumed by Fixed Charges. If it is less than half we may be sure that the security of the stocks and bonds is high. If it is much more than half, by that much we shall understand that the absolute security of the bonds (and the securities of the leased and rented lines), is impaired. In other words, we may compute the Factor of Safety for these underlying securities. If, for example, as in the case of the New York Central, Fixed Charges, rentals included, consume about 65% of the Total Net Income, we shall see that the Factor of Safety for New York Central bonds and for the securities of the lines leased or guaranteed by the New York Central, is apparently low. If the Total Net Income of the New York Central fell 35% in bad times, with no decrease of charges, the ability of the road to meet the interest on its bonds, its rentals and its guarantees, would be in danger. The Factor of Safety of the underlying securities of the New York Central in the sense here indicated, would therefore be only 35%. As a matter of fact, it is much higher than this, in virtue of its large equity in other roads.

If, on the other hand, as in the case of the Delaware and Lackawanna, Fixed Charges, rentals and guarantees included,

consume only 30%, or 40% of the Total Net Income, it would be under only the most extraordinary conditions that its ability to pay would be impaired. Its Factor of Safety is high. In general the investor who seeks absolute security then, will avoid roads with a low Factor of Safety, and choose those where it is large.

This same line of reasoning may be followed out as to the margin for dividends, alike for preferred or for common stock. When we have deducted from the Total Net Income the Fixed Charges, including rentals, we have the item known in the reports as "Surplus." If the amount remaining over after Fixed Charges have been paid is relatively small, it is obvious that the dividend will be precarious and the stock value correspondingly low. On the other hand, if the surplus is relatively large, we shall know that the road will be able to stand a considerable period of depression and still be able to meet its dividend payments.

We may compute the "Margin of Safety" for stock dividends in precisely the same way as the Factor of Safety for bonds. As a rule the dividends on the preferred stocks are limited to a fixed sum. The speculative value of such limited dividend stocks is therefore much smaller than in the common, or in the cases where the preferred may share equally with the common. As a rule the preferred stocks are chosen by investors who wish a greater degree of safety and are content with a smaller yield.

If now, after Fixed Charges have been paid, and the dividend on the preferred as well, a large surplus still remains, the Margin of Safety for the preferred dividends is large. This is very simple to compute, and the investor is then able to judge for himself as to the degree of security which his money enjoys.

Equities Owned.

It very often happens, however, that the abstracts of their condition drawn up by the railway companies do not show their actual financial strength. Let us take an example. The New York Central issued bonds at 4% and exchanged these for the stock of the Michigan Central and Lake Shore roads. These stocks pay a certain dividend and go to offset the interest payment on the bonds. In the actual case of the New York Central, the dividend returns were but slightly larger than the amount required for the interest. When, however, we come to examine the earnings of the Michigan Central, and the Lake Shore, we find

that enormous sums are being set aside from earnings for improvements, and that the earnings are mounting rapidly with no corresponding increase in capitalization; in other words, a large proportion of the earnings that might otherwise be available for dividends is being put back into the road—"plowed in," as a farmer would say. It goes without saying that, given a judicious use of the money so employed, the value of the New York Central's holdings in these two roads is rapidly increasing. When the improvements are completed, these roads will be in a position to pay very much higher dividends than they now pay. In other words, the New York Central's "equity" in these roads is considerable.

All this must be considered in endeavoring to estimate the value of a road's holding of securities. It is this, for example, which accounts for the fact that while the New York Central nominally earns a little more than sufficient to pay its dividend, its stock has sold at a high figure, and its fixed interest securities been coveted by investors. Owning these subsidiary companies, as it does, the Central, when it so desired had merely to increase the dividends which they pay, to swell its surplus income sufficiently to meet all charges and dividends as well. A very large number of American roads are huge holding companies, and it is for this reason that the item of "Equities," becomes one of the most important which the investor has to consider.

"Concealed Earnings."

There is the further item which may be considered here, and that is the matter of earnings carried under an excess of expense account. Nominally the surplus shown by the Lake Shore for 1905 amounted only to 8.9% on the common stock. As a matter of fact huge sums were set aside from the earnings for improvements, so that the actual surplus earned, even after adequate maintenance charges, was nearly 23%. The last six or seven years have in general, been years of marvellous prosperity for American railroads, and it has become the usual practice of the roads to set aside such sums, rather than pay them out in the form of dividends. This is a highly conservative policy and has enormously enhanced the safety of railway securities as investments. It likewise means that the roads which follow this policy are in an immeasurably better position to meet a series of bad

years and long depression such as followed 1893. It means that a road, in proportion as its earnings have been turned back into the road itself, is in a position to continue its present disbursements even though lean years should come. Should earnings fall off, improvements could be suspended and maintenance charges cut down, without in any way crippling earning capacity. When we come to examine the conditions of the several roads we shall look very carefully to these questions of "concealed earnings," knowing that in proportion as they are found, the stock of a road presents an attractive investment.

Affiliations: " Community of Interest."

There is yet another "equity," of a much vaguer but none the less very tangible sort which a road may have, and that is its *friendships.* Railways do not escape from the rigors of very keen and oftentimes bitter competition. Ten or fifteen years ago, great battles between the railways,—"rate wars" as they were called,—were a familiar fact; the results were often drastic to the last degree. Rich roads were forced to suspend their dividends. Even vast properties like the Baltimore and Ohio were driven into bankruptcy. Today these rate wars are all but unknown. This has come about through the introduction of the well-known "Community of Interest" idea. Prohibited from "pooling," or having agreements to maintain rates, it was open to the railways to purchase each others securities, to interchange directors, and to bring competing lines as far as possible under much the same ownership. The lead in this plan of combination was taken by the New York Central and Pennsylvania lines. It involved extensive purchases of the stocks of competing roads, and as this was often in conflict with the laws, their object was attained sometimes in extremely roundabout ways. Thus, for example, the Pennsylvania gained control of the Baltimore and Ohio; the New York Central bought the Lake Shore; in its turn the Baltimore and Ohio divided with the Lake Shore the control of the Reading and other lines; the Reading acquired a controlling interest in the Central of New Jersey, and in a similiar way the Lehigh Valley, the Hocking Valley, the Chesapeake and Ohio, the Norfolk and Western and other roads were brought more or less into a community of ownership. Sometimes the control of a road is not corporate but personal. Thus, the stock of the Delaware and Lackawanna is not owned extensively by any par-

ticular road, but its control lies with the Vanderbilt and Standard Oil interests, so that its ownership is much the same as that of the New York Central.

This communal idea has been more or less carried out over the whole country, so that the interlacing of interests practically involves all the larger roads. These affiliations are of very keen interest to the investor. But they are not always easy to trace, from the simple fact that the interlocking of interests is so extremely complex, and from the fact that the policy of a road may be dictated in a very roundabout way.

Thus, for example, the control of the New York Central is supposed to rest absolutely with the Vanderbilts. Nevertheless, Standard Oil holdings are understood to be heavy, and besides two representatives of this interest, its directorate includes also J. Pierpont Morgan, and George F. Baker, president of the First National Bank of New York City. This control holds over all the Vanderbilt system and the Chicago and North Western, and to all intents over the Delaware and Lackawanna as well. Mr. Morgan is regarded as in practical control of the Erie, and the Erie in turn owns the New York, Susquehanna and Western. Also a director in the Erie, and very closely associated with Mr. Morgan, is James J. Hill, whose control of the Great Northern, the Northern Pacific and Chicago, Burlington and Quincy is absolute.

Again, Standard Oil interests, with the Smith estate, are supposed to control the Chicago, Milwaukee and St. Paul. Representatives of the Milwaukee and St. Paul and of the Chicago North Western are to be found on the directorate of the Union Pacific. The Union Pacific in its turn owns the Southern Pacific. Thus it is the Vanderbilts on the one hand, the Standard Oil interests on the other, which stand in the middle between the "Hill lines," and the "Harriman lines." H. C. Frick is another director of the Union Pacific, prominently interested also in the Pennsylvania, Reading, in the Norfolk and Western and in the Atchison. The Union Pacific has large holdings in the Atchison; it openly owns a large interest in the Baltimore and Ohio and in the Illinois Central.

The banking house of Kuhn, Loeb and Company is no longer represented on the directorates directly by its members, but it is known to be one of the most powerful influences in railroad affairs in the country, and has latterly come to be regarded as especially influential in the management of the Pennsylvania.

In a similar way it might be shown how the "Gould lines," the "Rock Island" interests, the Hawley railroads, the Atlantic Coast Line system, and other lesser lines are equally involved in this network of affiliations.

The practical effect of this community of interest plan, by doing away with disastrous rate wars, and eliminating to some extent, harmful competitive building, has been to give railway earnings, and correspondingly railway securities, a degree of stability which they never before enjoyed.

Not all of the roads, however, are closely associated in this community of interest. Some of them are quite independent. The securities of these independent roads can hardly be so solid as the others. In any event, it will be interesting in each case to note what are the affiliations of the road, and thus determine to what extent friendly offices would be extended to smooth over differences —should differences arise.

Management.

Finally, there is a vaguer asset than any yet considered, which is none the less a vital one. This is management, and more widely still, the history of management.

It is one of the most curious facts of railway history, but one exemplified fully enough, that careful and conservative conduct of a road tends in some sense to perpetuate itself. The law of heredity, so strong in the common affairs of life, obtains in some sense among railways also. It is not for nothing that the Vanderbilt lines have been under the control of a single family for more than half a century. It is not for nothing that the Pennsylvania has never failed to pay a dividend for more than fifty years. It is not for nothing that roads like the Reading, the Erie, the Union Pacific, have been the footballs of stock-jobbing speculators, and dishonest directors. The ownership of a road, the personnel of its management, may change absolutely, yet it is curious to note how amid all these changes its character for good or evil will sometimes survive.

This is why the history of a road is not without its importance to the intelligent investor. If it has been through bankruptcy, there were ample reasons why; and it will be of interest to inquire what these reasons were, and to what extent they have been eliminated.

Conversely, if roads like the New York and New Haven, the New York Central, the Pennsylvania, the Delaware and Lacka-

wanna, the Chicago & North Western, have been able to survive two or three periods of depression and bad earnings, it will not be unreasonable to suppose that they will maintain their clean records, and that they will be in better shape than other roads to meet subsequent depressions, which come as inevitably as the years of crop disaster.

To be sure, it will not do to accept the history of past performance blindly, or without question. There have not been lacking roads, like the Chicago and Alton, whose securities have been regarded as gilt-edged, but which have suddenly been found to be greatly inflated. Nor will it do to damn a road or avoid its securities, simply because it has known difficulties or had dishonest managers in the past. The vital question is, of course, whether it is well managed now.

For this reason it will be of interest to note who are the controlling spirits of a road, and who are the executives actually in charge of its management. The latter is of less interest to the investor, for in a general way it may be said, as Napoleon said of armies, "There are no poor soldiers, there are only bad generals." The great army of railway men in the United States has made a record of skillful and energetic management which cannot be found anywhere else in the world. They are in the main striving to the utmost to run their lines efficiently and economically, endeavoring to make the best possible record for themselves and the lines which they conduct.

It is the heads which we should look to. The investor will ask himself what is their standing in the financial world; what enterprises they are engaged in, and if he finds that they have engineered huge stock-jobbing operations, he will avoid the securities of their roads. He will know that if they suddenly jump the dividends in an unusual way, simply for the purpose of turning a quick profit in Wall Street, he may equally expect that these dividends may be suddenly cut when it suits the stock-jobber's purpose.

New Capital and Old.

There is another item which the investor will do well to consider with some care, and that is the recent increase of capitalization of a road. If in the last five or six years the railway has been issuing large quantities of securities, he will ask how the money so obtained has been invested, and whether it is yielding an adequate return. He will look at the corresponding increase of gross earn-

ings, and if this increase is not in evidence to the extent it should be, he will turn to the account of securities owned, and find out if the money has been put into the stocks and bonds of other lines; and with this, the item of "other income," showing the return which these investments yield. If he finds no adequate response to the new capital, in either the one item or the other, he may fairly conclude that the capital account of the road is simply being watered, and he will take due account of this in considering value.

The conclusion should not be hasty. It may be that the road is undertaking large improvements which have not yet begun to tell to their full strength in earnings. This is the case undoubtedly with the enormous expenditures which the Pennsylvania Railroad has made within the past few years, in gaining a terminal station on Manhattan Island and pushing its tunnels through to Long Island. Nevertheless, the annual accounts should show the amounts of these expenditures, so that the investor may know what deductions should properly be made; and this, it may be remarked, is something that the Pennsylvania has not done very clearly. And here, as in every other instance, the investor will know that his money is safe in proportion as the road follows a policy of publicity and absolute frankness; that it is unsafe in proportion as adequate reports are for one reason or another withheld.

The Profit of Improvements.

One item to consider: whether the improvements or new constructions are to be carried out when the general level of prices, of railway materials, of labor and of supplies, is high or low. It is said of the Atchison that it took advantage of a depression, along in 1896-7, to take up a great quantity of light rails and substitute heavy steel rails at low prices; yet such was the subsequent rise in the price of iron that it was able to pay for this replacement from the proceeds of the old rails.

If, on the other hand, a new line is to be built, a heavy reconstruction is undertaken, when commodity prices have risen 25 to 40%, as they did in the ten years preceding 1906, if labor is very dear, the price of railway supplies high, obviously the capital so invested will yield from a quarter to a third less than when employed at the lower levels, disregarding, of course, the question of rates or the amount of business. The point is simply that railroads built or improvements made in flush times at high prices cannot expect to earn either in good times or in bad times the same

rate on the capital employed as when the capital is able to buy goods and labor at 25 or 40% less.

Character of Traffic.

There is an old adage about not putting all one's eggs in one basket. If a road is dependent for its prosperity upon the prosperity of a single industry, like coal-mining or wheat-raising, it goes without saying that there will be a larger element of risk in its securities than as though its traffic were distributed over a great number of articles. A long strike in the anthracite or bituminous coal regions can send down the stocks of the Lackawanna, or Reading, or Chesapeake and Ohio, or Norfolk and Western, and other lines; can very heavily impair the earnings of these lines and threaten their dividends. A long drouth in the corn fields or the wheat fields could vitally affect the prosperity of the "Grangers," as in Wall Street parlance, the Western roads are known.

It is for this reason that the investor will look into the character of traffic on a line, find out what portion of its earnings is from passenger service, what from freight service, and what are its other resources; he will inquire whether the items of freight are widely distributed as to tonnage or whether as in the case of the Pennsylvania, and more distinctly with the "Coalers," coal and coke make up more than 50% of the tonnage hauled. Every properly constructed railway report contains this information.

Stability of Earnings.

The next item to be considered is the degree of stability which the earnings of a road have shown through a series of years. In the present work this item will be carried back ten years. It is not, in truth, of very much value to pursue the question further than this. The conditions under which the road operates may change so considerably as to make further comparison of little worth.

Nevertheless, it is to be said that the showing within the last ten years is to some extent deceptive, and the investor will do well to be upon his guard. The last ten years have been, for the whole country, years of almost unexampled prosperity, and in this prosperity the railways have shared in the highest degree. The year of 1896 was the end of a long period of declining earnings and declining values. In the intervening period almost every road in the country has shown an enormous increase in its gross earnings, even when these earnings were reduced to a mileage basis.

This prosperity has been especially accentuated within the last four or five years. It is scarcely possible that earnings can go on increasing at the same rapid pace. They may not seriously decrease, but it would be without precedent in economic history if the fat years should not be succeeded by the lean years. It is for this reason that the mere fact of a large increase in mileage earnings is not in itself absolute evidence of the stability of a road. The increase is to be compared with the corresponding output of stocks and bonds, and with the degree of prosperity which the country has enjoyed. It may be that the earnings have increased much more rapidly than the capitalization. If they have not it will be well for the investor to inquire why.

Maintenance.

It is to be said, however, that our American railroads have utilized their prosperity with splendid foresight. Great earnings have not been employed to maintain huge dividends. No fact testifies more to the conservative character of American railway management than that dividends have not tended to increase with anything like the rapidity which the earnings may seem to justify. Instead of charging improvements to capital account, as is the habit of British railways, a tremendous line of betterment work has been carried out and charged either directly to operating expenses or drawn from earnings in the form of an improvement fund.

The result of this policy is that while English railways have practically reached the limit of their capitalization, and they are, in some sense, nearly bankrupt, as far as their ability to issue new capital is concerned, American railways were never in so strong a financial position, nor better able to meet a turn of the tide.

In examining the maintenance accounts of separate roads, we shall, as is customary, reduce these to a mileage basis, and compare this maintenance with the so-called "traffic density," that is, the number of tons carried one mile per mile of road operated. When we have done this, we shall find, in general, that maintenance charges, alike for Way and Structures and for Equipment, have increased very rapidly, usually much more rapidly than the traffic itself. This is a good showing. Indeed, so far as this policy has been pursued, earnings to some extent have been concealed in the maintenance account. It has become the general habit in discussing railroad reports to analyse this item carefully, and determine this amount of concealed earnings.

But this, in considering the charges of a single road, is apt to be misleading. If one line were thus to conceal large earnings each year, while its immediate competitors did not, it is obvious that this might justly be considered as part of the assets of the road. But if the policy is equally pursued by all lines, there is no advantage to any single road, and it will be misleading to weigh this item too heavily. Thus it has been the policy of this book not to consider so much what an individual road has spent over and above the actual needs of maintenance, but to compare it with its competing lines, and note whether its charges have been relatively high or low.

In comparing maintenance charges, even when reduced to a mileage basis, it should always be taken into consideration whether these charges apply to practically a single track, or whether the road has a considerable percentage of extra main track. So for example, it would be foolish to compare the maintenance of a road with a large amount of double and other track, like the New York Central, with a single track line, let us say like the New York, Ontario and Western. In the same way a line like the New York and New Haven with a very large percentage of passenger earnings, and a comparatively low freight traffic density, will require a relatively larger sum for maintenance of way than a road whose earnings are chiefly from freight. Moreover, it is obvious that different roads are very differently situated as to the cost of various items of maintenance. On one line labor may be cheaper, on another ballast, on a third, lumber and ties, and so on.

In a general way, too, eastern roads will have a higher standard of maintenance, will be better kept up, will have finer stations, in the large centers of population, their expenditures will be greater, than with roads running through sparsely populated territory. The only basis of comparison, of course, is with roads as closely alike in their traffic and their territory as possible.

Improvements.

Again, all of the railways do not pursue the same bookkeeping methods. Many lines, as conspicuously the Vanderbilt lines, maintain a separate improvement account. What is considered legitimate maintenance is charged directly to the operating account, while the extraordinary betterments are paid from a separate fund, even though this fund is drawn in its turn from the surplus earnings. In comparing maintenance charges this fact must be borne in mind.

It may be well to note, likewise, that different bookkeeping methods may make a great difference in the amount of Net Earnings shown and correspondingly in the items of Total Net Income, and even in some cases in the item of Surplus. It will obviously make a considerable difference as to whether the improvement fund is deducted from the net earnings in front of the Total Net Income, as in the case of the Vanderbilt lines or the Delaware and Lackawanna, or whether the amount is charged off from the nominal surplus, as is the procedure of the Pennsylvania.

In order to show conditions as nearly as possible, in this work, where such special improvement appropriations are made they will be separately tabulated through a series of five or six years.

Fixed Charges.

Most of the roads have other sources of income than their own traffic earnings. When this Other Income has been added in, we have the amount of Total Net Income. From this amount is deducted the interest on the Funded Debt and on floating indebtedness, taxes and sundry special charges. In most railway reports rentals on leased lines are included in the item, but this is not true of all. In the present work it may be understood that rentals are invariably so included, and considered as part of the Fixed Charges which the road must meet.

Surplus Earnings.

When all of these deductions have been made, there remains, where no deficit is shown, the surplus available for the arbitrary use of the directors of the road. This Surplus may be, and to the credit of the managements often has been turned back in part or in whole towards the improvement of the property. The traditional policy of the Pennsylvania, for example, has been, "a dollar for improvements, a dollar for dividends." Latterly this policy has not been strictly adhered to; but it may be taken as a model procedure, towards which the best railroads have more or less striven. Where it has been followed, the investor may be sure that his funds are safe, and that his interest and dividends are reasonably certain.

It should be noted, however, that the bookkeeping systems of the various roads differ so widely that it is not always easy to determine how far this conservative policy has been pursued. For

example, the management of a line may keep its maintenance charges low, with the intent of showing a large surplus, and deduct from this a large appropriation for improvements. On the other hand, a road may heavily surcharge its maintenance and set aside a considerable improvement fund as well. It is obvious that a management which pursues this latter policy may be trusted in the highest degree, and the securities of such a road are eagerly sought by careful investors. It is for this reason that these items should not be considered singly, but in the aggregate, and that the investor should endeavor to reduce the maintenance and improvement charges to a uniform basis, in order that his comparisons may be just.

Profit and Loss.

It is the general custom to reserve for deduction against the surplus shown various items such as contributions to the sinking fund, payment of car trust and similar items. Some of these are to all intents a fixed charge, as for example, car trust payments, if equipment so obtained is to be paid for from earnings and not charged to capital account. It is, after all, a mere matter of bookkeeping, and the individual reports ought not to deceive the investor by misleading him as to the true surplus earned. It may readily deceive him in case he does not see the individual reports but relies simply upon second-hand information. In the present work it has been the general policy to show the surplus after such payments, but before the payments to special improvement funds, etc. Here and there, for special reasons, this has not been invariable.

When from the surplus all charges and dividends have been deducted, there usually remains an amount sometimes called the "net surplus," which customarily goes to the credit of Profit and Loss. Usually this amount is relatively small; sometimes, as in the case of the Great Northern in 1906, it may be very considerable, amounting to $5,184,569.

Nominally the Profit and Loss account, which is carried on the General Balance Sheet as a liability, is represented by items in the assets, of corresponding amount. Theoretically this account should represent the fund from which the road might draw in case of adversity or need. As a matter of fact it is often a merely nominal amount, and is represented in the assets by such vague entries as "Cost of the Road," etc. It is for this reason an item which may have much meaning or little.

Current Conditions: General Balance Sheet.

The main items to be found in the balance sheet which the investor will wish to consider are, on the credit side:

Securities Owned,
Advances to other lines,
Current assets,

and on the Debit side:

Current liabilities.

The items of cost of the road and of cost of equipment are so entirely a mere question of bookkeeping that they again may mean much or may mean little. Some roads like the Lake Shore or the Louisville & Nashville, years ago closed this account and all improvements have been charged directly to earnings.

The item of advances to other lines, usually to leased or controlled lines, should in general represent an available asset, and may be so considered. Sometimes they are entered among the open accounts, sometimes separately. Strictly speaking, they are not, usually, a quick or "current" asset.

Current assets may or may not include supplies and materials on hand. In any event these may not properly be considered quick assets in estimating the company's working capital.

The Current Liabilities should include all open accounts. The chief item that should be looked to is the question of floating debt, and this in general should not be large.

The Current Liabilities ought in general to be much less than the current assets and the difference between the two may be considered in general as the company's available working capital. Where the current liabilities exceed the current assets the road is not in the condition in which it should be, unless there be special reasons, which in any event should be carefully looked into.

Dividend Record.

In the present work an endeavor has been made to show the dividend payments alike on preferred and common stocks through a long series of years. It in no wise follows that because a road has paid dividends steadily for the last ten years or even for half a century, that it will pay them next year; but a fine dividend record in general presupposes good management, and creates a favorable prejudice as to the future; and certainly nothing better represents proper capitalization and good management. It may often happen that dividends have been paid when they should not have been, but if

a record of continuous payments is accompanied by proof of proper maintenance and a liberal improvement, the securities of the road should possess a high degree of solidity.

Investment Values.

It will be seen from the foregoing that a variety of items must be considered in endeavoring to determine a reasonable price for the bonds and stocks of a road. It is not difficult to see that the problem is complex, and it is for this reason that it requires as much consideration and good judgment as the purchase of any other kind of property.

It is on this account that the estimates given in this work can be only of the broadest sort. They are simply opinions based upon the face value of the available evidence. The full data from which these opinions are formed is given: it should be distinctly understood that they are reached by no secret process and represent no special or occult knowledge, and in each case they should be carefully scrutinized by the investor himself.

In general the plan has been to discuss the showing which each road has made through a series of years, and to show what it has earned and what dividends it has paid, and then to consider the price which the securities have brought within the last four or five years. If there has been no radical change in the situation of a road, in its capitalization or in its earnings, it may be supposed that these prices will more or less fluctuate within the limits shown in these four or five years. If, on the other hand, the earnings of a road have been steadily increasing, and its prospects are good, it is evident that, other things being equal, prices should rule somewhat higher than they have.

Naturally an investor should guard himself against too implicit a trust in the flush times of 1900-07. Nor does the fact that prices have been run up to very high figures necessarily mean that the securities are an attractive purchase, even with a very fine showing as to the earnings.

"Manipulation."

The extraordinary fluctuations in the price of railroad securities is, to the uninitiated, extremely perplexing, and undoubtedly prevents many investors from placing their funds in railway securities. In point of fact the matter is, in a broad way, simple. In Wall Street and out, there is a large body of shrewd and careful dealers in railway securities, who study earnings, who study markets, who

endeavor, so far as they may, to *anticipate the future.* Their business is to buy when they think stocks are low, and to sell them when they are high.

These thrifty folk often are able to command enormous resources, either from their own funds, or those from banks, trust companies, insurance companies and the like. It is not impossible that some of them may have access to the large surplus funds of the railways themselves. These funds need not necessarily be directly used in this way. The cash surpluses must be banked or loaned out somewhere, and once in a bank, it is obvious that they in turn are available for loans to individuals, sometimes, it is to be feared, to the officers or directors of the road.

It is undoubtedly true that enormous sums are utilized for the purpose of what is commonly known as Wall Street "manipulation." Heavy buying of a stock will certainly put up its price, or maintain it when it is high; heavy selling will certainly tend to depress the price, and it is a part of the machinery of Wall Street that as much money may be made by selling stocks "short," as the phrase goes, as by buying them for a rise.

Selling stock "short," means simply selling shares which the seller does not actually own and then borrowing shares from actual owners who are willing to lend, with the expectation that the price will fall, and that the securities may be bought back for less than the selling price, and the transaction thus closed.

Manipulation takes the form usually of running up or depressing prices through what is tantamount to "wash sales," that is, the manipulators practically buy and sell to themselves. They cannot do this openly, but an order may be given to one house to buy, and to another to sell, and in this way enormous transactions may be effected which in reality represent little or no actual exchange of property.

This manipulation need in no wise harm or disturb the legitimate investor. So far from that he may shrewdly be the gainer therefrom. It is unquestionable, that high prices are habitually "made" by large holders of securities, with the intent to unload them on other less practiced, or more optimistic buyers. It is equally true that prices are habitually depressed far below the legitimate value of the securities, for the purpose of inducing weak or frightened holders to sell out. But it is open almost as much to the small investor to take advantage of this situation as to the makers of it. He should not expect to "buy at the bottom," for not even the big

manipulators are able to do that. He need not expect to sell at the top, for not even the manipulators can do so. It is customary to make high prices with the expectation of being able to unload at something under these figures.

The Money Market.

There is in a general way a very good index as to whether securities are high or low; that is the prevailing rate of money. This is in no wise absolute, and yet if the investor will scan the fluctuations in the price of money, through a series of years, he will find that in a broad way money tends to be cheap when securities are cheap, and dear when securities are dear. This is precisely the opposite of what might at first be expected. One might very well reason that the lower the price of money, the higher the price of securities. In point of fact there are other forces which tend to counteract and to some extent to reverse this primitive law.

The first is that securities tend to fall when confidence is weakened. If prices are high, but business conditions are threatening, shrewd holders of securities sell out. They convert their holdings into cash. The result is a corresponding accumulation of banking funds which, if there be no disturbing factors, tends to produce cheap money. The more this "liquidation" of holdings, as it is termed, is pursued, the farther the prices tend to fall, and the larger the cash in the banks.

On the other hand, when business conditions begin to pick up, shrewd and foresighted investors take their money from the banks and put it back into securities which they will hold in the expectation of a rise. They not only take their own money, but some of them will borrow freely from the banks, to purchase securities if the latter are low. They will deposit the securities as collateral, and in this way the bank funds will be depleted. As the market rises, the speculative fever grows; other people do what the shrewd folk have done long before, and in order to obtain money for speculation, they bid up the price of money, and as stocks go up, the rate of interest goes up.

It is peculiarly characteristic that the larger buying of the outside public always comes when prices have reached a relatively high level. Naturally the result is to force money still higher, so that the climax of a stock boom is usually preceded, or at least attended by a money "squeeze." Then it is that the shrewder folk sell out their holdings, take their profits, and turn the money over to the

bankers to loan out at high rates. When the big holders sell out the market wavers for a time, and then tends to fall.

The Top of "Booms."

It goes without saying that all this is attended by a good deal of very clever playing upon the hopes of human nature. When those who make it their business to buy and sell in this fashion, and more especially the big manipulators, make up their minds to buy, it is evident that they will not be scattering rose-colored tips, nor giving out "bull" interviews. The air will be filled with vague rumors of disaster, frightened folk will not be too warmly reassured as to the value of their holdings. Prices will sag lower and lower. The market will be very "heavy."

Correspondingly, when these astute folk make up their mind it is time to sell out, the future will never appear so bright, rumors of great deals, big consolidations, increase of dividends, stock distributions, and the like will be scattered broadcast. Then it is that "prices are surely going higher."

All this is so simple, so elementary, that it might be supposed that the game would have been played out long ago, but that is what it never seems to do. But if the outside public is caught, if the investor overreaches himself, and fails to sell before the turn of the tide, if he sells out when everything looks gloomy, only to buy back his holdings at a much higher price, it is certainly no one's fault but his own.

If he will but consider precisely what he would do if he were in control of a property or of a business, or wished to secure control, he should not have a great difficulty in following the course of events in the stock market.

But he would be a more than foolish man who would suppose that "manipulation" may fix prices. It can, and it undoubtedly does influence them largely, but no manipulation for a rise can be successful in the face of falling earnings, high rates of interest, failing banks or poor crops. No manipulation for a fall can be successful when money is cheap, when crops are bountiful, when earnings are high. Manipulation does not determine values, and if the investor follows business conditions broadly and intelligently, there is no reason why his investments should show a loss a year after they are made. If he is buying in the expectation of a rise, he may have to wait, often a considerable time, but if he has used his judgment soundly, his reward should come.

Investment and Yield.

It goes without saying that what is true of buyers who look for a rise, has equal force for those who wish to invest their funds simply to secure a good rate of interest. If New York Central's stock is selling above 150, and paying a 6% dividend, it is obvious that the return to the investor will be only 4%. If at the same time a man may take his money to a banker and have it loaned out for him on gilt edged securities at 5 or 6%, less the banker's commission, he is a foolish man who buys New York Central stock at that time. This is always supposing that he is investing and not speculating, or rather *gambling*. On the other hand, if a solid 6 or 7% stock like Pennsylvania sells down to below 112, as it did in 1903-4, and there is every prospect that its dividend will be maintained, the investment will yield him above 5½%.

If at the same time money has fallen, as it often does, to 3 or 4%, it is foolish to give it to the bankers or money lenders at such a rate. He will buy good dividend-paying securities instead.

This is the A. B. C. of sound investing.

"Rights."

The return which investors receive in the form of dividends and likewise in the increment in the value of their stock is not the only return. There is another, which may equal either of these in value, and that is the occurrence of "rights" to the purchase of new stock, below the market price, when an increase of capitalization is contemplated.

For example, we may take the recent case of St. Paul. A new issue of $25,000,000 was authorized and stock holders of record were offered the opportunity of subscribing to the new stock at *par*, to the extent of about 23% of their holdings. When these rights were offered both the common and the preferred stock of St. Paul were selling in the neighborhood of $200 per share. In other words, the stockholders could subscribe to shares at $100 which would presumably be worth in the neighborhood of $200 per share as soon as issued, to the extent of 23% of their holdings. The effect of this was to create "rights" worth from $15 to $18 per share, according to the fluctuations of the stock.

Stockholders were not at all compelled to take up this new stock in order to reap the benefits of the opportunity. They might sell their rights to another party and as a matter of fact rights are habitually dealt in on the Stock Exchange in the same manner as

stocks and bonds. The issue of these rights or privileges is, with the rapid development of our railways, a matter of frequent occurrence which may happen with any growing line such as the Great Northern, the Northwestern, the New York Central, and many other roads. The value of the rights may, over a series of years, average nearly as much as the actual dividend, conceivably more.

It is customary in speaking of these privileges to consider them in fact as to all intents the equivalent of cash dividends, and it will be of value therefore to the investor to consider precisely their effect. The issue of rights is to all intents a stock dividend, but it does not deplete the resources of a road; it merely dilutes, at least for the time being, the road's capitalization. This fact is elementary and yet in current references to rights it is generally ignored. The assumption is that the rights are the exact equivalent of an ordinary dividend, and it is known that when an issue of new stock is in prospect the tendency of market quotations is to rise, and when the rights come off the effect is exactly the same as when the stock sells ex-dividend; the stock is soon selling at much the same figure as before the rights were issued. If this theory were sound it is evident that roads might issue these valuable privileges every month or so, and stockholders make a thousand per cent. per year on their money. This is the reductio ad absurdum. Railway shareholders like the rest of mankind cannot have their cake and eat it too.

Issue of "Rights" a Form of Stock Watering.

Let us take the specific case of St. Paul. On its present capitalization, St. Paul is earning from 10 to 15% according as one estimates the amount spent for maintenance and the need of additional replacements. It earns very comfortably its seven per cent. dividend on both classes of stock and in fact the stock sells on a rather higher basis than the dividend would justify, doubtless in anticipation of an eventual increase in the dividend rate.

The average price for the rights to the first 1906 issue of stock was $17. In anticipation of these rights the price of both classes of stock was run up very considerably, and when the rights came off the price was about the same as before they had been issued. The effect of this to the man who at this time sold his rights and his stock or who took up the new stock and then sold his entire holdings was to give him a cash dividend of $17 per share. It is obvious, however, that this cannot be the permanent effect, for this is to suppose that the road can continue to earn from 10 to 15% on the in-

creased capitalization as easily as upon the old. This might be true in a specific instance but it is obvious that it cannot be true generally. Otherwise there would be such a rush to build railways, with the consequent struggle for business and the reduction of rates that the earning power of St. Paul and of all other roads in its territory would fall to the general level of the earning power of money. If, for example, railroad men could freely borrow at from four to five per cent. and build railways that would yield them from ten to fifteen per cent., they would borrow every dollar they could lay hands on. As a matter of fact the general earning power of railway capital stands at about the same level as any other business involving a corresponding risk. No one could take 236 million dollars and build another St. Paul Railroad in St. Paul's territory and earn ten or fifteen per cent. dividends on the portion of capital set aside as stock.

The present selling price of St. Paul stock represents the advantage of a natural monopoly which every railway possesses in a greater or less degree, and the accumulative effect of thirty years of shrewd and careful management. The value of the rights was not based on the idea that the $25,000,000 of new stock would immediately earn a similar rate; they represented the value of the privilege of buying into a share of the St. Paul's present assets. It follows therefore, that theoretically at least the value of the shareholders' stock was lessened by exactly the amount received in rights. Why then should the price of the stock rise exactly as though ordinary dividends were in prospect? The reason undoubtedly is this: the St. Paul has a high reputation for good management; the new issue did not represent more than about ten per cent. increase in the total capitalization of the road; and the expectation undoubtedly was that this money could be so well invested that the issue would not immediately impair the dividend paying power of the road greatly, and eventually not at all.

In actual practice this theory works out very well. For example, the rights on Great Northern stock issues have been very considerable and yet the stock steadily increased in price. This tends to obscure the fact that every such stock issue dilutes the value of the rest. It simply represents "taking profits." The increment in value would have been just that much greater had the stock privilege not been created.

What then will the shrewd investor do? He will scrutinize very carefully the *amount* of the new issue, consider what percentage of

increase it represents on the stock capital and in the total capital of the road, the purpose to which it is to be devoted, the record of the road with previous ventures of the same sort. If capital is increased more rapidly than the earnings he will take advantage of a time when the general level of stocks is high and sell out. If, on the other hand, he concludes that the new issue will be advantageous and profitable, he will take advantage of a general depreciation in the value of stocks to buy at the time of such general depression. He may be sure that the stock of roads issuing new securities will then be much more depressed than that of others. If, therefore, his judgment be sound, he will be able to profit by the fears of other shareholders who have not the same confidence in their own minds.

How to Compute the Value of Rights.

Inasmuch as the method of computing the value of rights is slightly complicated, an illustration may be given. Let us take the instance of St. Paul again, where the stockholders were allowed to subscribe to 23% of their holdings to new stock at par. The common stock was at that time selling a little below $200 per share. Let us take the round figure, and the operation is as follows:

One hundred shares at $200 per share equals............	$20,000
Twenty-three shares at $100 equals......................	2,300
Total cost of 123 shares.............................	$22,300

Average cost, $181 per share.

Deducting $181 from the market quotation leaves $19, the value of the rights on each share of St. Paul stock. As a matter of fact the selling price was a little below $200, and the highest price of the rights fell a little below $19 per share.

In other words the process is simply to take the number of new shares per hundred shares of the original holding to be subscribed for, and add the value of these new shares at the subscription price to the cost of one hundred shares at the market price; then divide the total cost of both old and new shares by the total number of shares, and deduct the average price from the market quotation. This gives the selling value of the rights.

"Convertibles."

Of recent years there has been a tendency towards the issue of a new form of security, that is the convertible bond—a bond that at the option of the holder may be turned into stock at a fixed price.

The Pennsylvania, the Atchison, the Erie, and the Delaware and Hudson have been among the roads to put out these new issues, but it is doubtful if any of the above have yielded the spectacular profits which were made from the convertibles issued by the Union Pacific. These bonds, issued at par, convertible into common stock of the Union Pacific at par, seemed a drug on the market for a considerable time. They could have been purchased as late as 1904 as low as $90. With the coming of another year, after Union Pacific Common had begun to soar above par, the bonds, of course, went with them. When the stock sold above $190 the convertible privilege represented a profit of nearly 100% on the investment.

An attractive feature of the convertible bond is that it presents a minimum of risk with a considerable speculative opportunity of gain. The option remains with the holder to keep his bond or turn it into stock according as he considers to his best interest. The interest payments come before any preferred dividends or for that matter, if they exist, before interest payments on income bonds.

They are, of course, junior securities, in case of the foreclosure of the company, to first mortgage or such prior liens; but if the road be in good shape, financially, and if the fixed charges, including the interest on the issue of convertible bonds, consumes no more than fifty to sixty per cent. of the total net income—the road being in supposed good condition, well maintained and well managed, the security is as good as the average investor would find elsewhere. With a reasonable sense of security comes possibilities of a steady increment in the value of the stock of the road, into which the convertible bonds may be turned at the wish of its holder. Naturally the conversion price is fixed somewhat above the market price of the stock. The idea is that two or three years of opportunity should be allowed for the road to utilize the funds secured from the sale of the securities, in improvements and new constructions. When these improvements begin to show in increased earnings, the stock should rise to the conversion price, and the holder may then step in and take advantage of the rise.

The investor has the advantages in the meantime of a fixed rate of interest which is not possible for the ordinary shareholder, and none of the hardships which may be entailed upon ordinary stockholders.

Obviously it is a very attractive way of raising money, but not in all cases an advantageous one. It is scarcely so sound a policy as financing improvements or new constructions purely from stock

issues, but on the other hand it is better than the issue of ordinary bonds which bear interest at fixed rates. If all goes well the convertibles are turned into stock eventually and the proper proportions of stock to total capitalization is maintained.

Effect of "Convertibles" on Stock Prices.

The first effect, of course, is to increase the Fixed Charges, and it is obvious that a road cannot as safely issue convertibles as it can issue stock. Moreover, the issues of convertibles lie as a dead weight on the stock itself and to that extent are detrimental to the interests of the existing stockholders.

If, for example, the Atchison issues $50,000,000 of bonds convertible into common stock, and the conversion price be par, then when Atchison begins to climb above par, and the conversion takes place, the stock will be loaded with the extra requirements of dividend disbursements. Other things being equal, the situation of the prior stockholders will not be nearly so good as if the road had issued ordinary 4% bonds. In the latter instance, the prior stockholders would have a smaller dividend surplus to divide between themselves, but if there is an increase of surplus they would by reason of the conversion receive only two-thirds of the benefit derived from the issue of new securities. In other words, the issue of convertibles would commonly tend to depress the price of the stock more than the issue of ordinary junior lien bonds, though the force of this is to some extent counteracted by the eventual conversion of the latter, and the lower Fixed Charges than would be the case with ordinary bonds.

Figuring the value of the convertibles is comparatively simple. They are usually simply a junior security, a general lien on all sources of income. All the investor has to consider, therefore, is the general status of the road. That is determined by noting the percentage of Fixed Charges on total net income, and the margin of safety, what is the average income of the road and what are the new securities. This done, one may consult the market quotations and see how far they are from the conversion price of the bonds.

Taking the specific case of Pennsylvania convertibles: The 3½% issue of 1912 represents only a 25% increase of the fixed debt of the road, and scarcely a ten per cent. increase in its fixed charges, including all rentals, and guarantees for which the Pennsylvania was liable. As ordinary 3½% securities, that is with no special liens, these bonds would have been worth, with savings bank

money at 3½%, par or very near it. Savings bank money tending to rise to 4%, the price of the securities would naturally fall. The conversion price was $70 for the $50 share of the Pennsylvania stock, or on the basis of the New York quotations $140 for each $100 of stock. If these bonds could be bought at ninety, the point of profitable conversion would then be $126. If the market price of Pennsylvania went above this, there would be a profit in the conversion. As a matter of fact the chances are that these margins of profit will be very small and if there be any considerable discrepancy, the investor will do well to inquire very closely into the cause. Supposing a purchase of the bonds at $90, the rise of Pennsylvania stock above $126 would represent a clear gain to the holder of convertibles, plus his regular interest, which would be in the case noted slightly better than 3½%.

The Future of Prices; The Cycle Theory.

At a first glance nothing would seem more fantastic than the idea of looking ahead ten or twenty years in the endeavor to forecast the general range of stock prices through this period. Yet it is certain that an intelligently speculative mind twenty or thirty years ago might have put forth a fair working guess at the course of prices within this intervening period, and barring the too frequent recurrence of wars, earthquakes and other visitations of divine Providence, there seems no reason why in a broad way the trend of prices in the future may not to some extent be anticipated.

The general theory of the business cycle is now so well established that the business man or investor who would disregard it would be in much the same position as the farmer who would ignore the course of the seasons and plant his corn in the fall with the expectation of gathering it in December. That business tends to move in rather broad and irregular cycles, that a series of years of tremendous activity, of rising prices, inflated values and universal prosperity,—the flush times of a general "boom", are invariably and inevitably followed by a period of declining prices, business stagnation, wide-spread failure and general depression, is now a matter of elementary knowledge. That railway shares tend generally to follow this general cycle is not so well known and the proof of it is of some interest.

Since 1872 *Dun's Review* has published tables showing the average price of 60 of the most active stocks on the New York market, and the present writer has charts showing these averages

back to the close of the Civil War. In these tables it is shown that in the 35 years from 1865 to 1900, the highest average point reached by stocks was in 1881 and that this high level was not again attained until 1901, just an even 20 years later.

From 1870 to 1873 there was a general fall in stock prices, culminating in the famous panic, and this was followed by four years of general depression. Actually, stocks touched a much lower level in 1877 than in 1873. There was a precisely similar fall from 1890 to 1893, followed by the same four years of general depression, stocks reaching a record low level for ten years towards the close of 1896.

From 1877 to 1881 and '82 prices rose rapidly,—in Dun's list by a total of 400%. This was followed by a sharp decline from '81 to '84, though prices never again reached the low level of '77. From 1897 to 1901-2 there was an exactly similar rise in prices, in this instance, however, amounting to only 200%. From the top level of 1902 there was again a similar decline through 1903-4, though prices did not return to the low levels of 1893-'97.

From the low level of 1884 to 1887 prices rose very nearly 100% and from that year showed a slow, oscillating decline to 1897. The top level of 1887 was not again reached for 12 years thereafter.

There was an exactly similar rise from the beginning of 1904 through 1906 and almost to 1907, followed by a sharp fall.

The 20-year parallel is so extraordinarily close that one might mistakenly suppose that one had here an almost panta-graphic means of forecasting prices. This is an illusion. The cycle is there, but it is an irregular cycle, like the perturbations in the orbit of a planet acted on by the attraction of various other planets. Thus, for example, the 60 stocks of Dun's list showed an average drop of 50% from the low level of 1873 to that of '77, a tremendous fall, though it is to be noted that the average fall shown in the table of *ten* of the best stocks, in the present writer's tables, shows no such heavy decline. On the other hand the low level of '96-7 was only slightly below the low level of '93, so that a trader who would have sold stocks "short" during the low level of '93, on the expectation of a further fall, as in '77, or the investor who would have waited for such a fall, to invest, would both have missed their market. Conditions of '93 were better than conditions of '73, and the downward course of prices practically halted at the '93 level.

Again, the rise from '77 to '81 was just twice as great as from '97 to 1902, so that any one who would have looked to see the average of 1901-2 rise to four times the average of '97, would have miscalculated sadly. Action and reaction are more or less equal, and just as the fall of '90-'97 was less violent than the fall of '70-'77, so the rise of '97-1902 was nothing like so tremendous as the rise to 1881.

And yet further: the average of stocks never reached the level of 1881 again for an even 20 years, as already noted, but the top level of 1906 on Dun's list was 4% higher than in 1902, and on the Wall Street Journal's list of 20 active stocks the rise was slightly greater (from an average of $129 to an average of $138 per share). The level reached in 1887, the highest point from 1883 to 1899, was 28% *below* the high level of 1881.

The fall from the top level of 1881 to the low level of 1884 was 62%. The fall from the top level of 1902 to the low level of 1903-4 was, on Dun's list, only 29% and on the Wall Street Journal's list only 31%.

The rise from the low level of '84 to the high level of '87 was near 90%, while the rise from the low level of 1903 to the high level of 1906 was only about 48%—one-half as great. Here again action and reaction approximated equality.

It is clear, therefore, that the cycle theory is available only within very wide limits and when its indications are checked and rectified by constant and careful examination of conditions.

The Outlook (1907).

With these very extensive reservations, the adventurous minded may make some sort of hazard as to the general trend of prices for the next ten or fifteen years. At the present writing (May, 1907), it does not seem probable that a general crisis, followed by a long depression, is yet due. There is much to indicate that it is not very far off. The strain upon banks is heavy, the expansion of banking capital from 1896 has been so great as to be unhealthy, the inflation of credits has been enormous, there has been wild speculation in real-estate, still wilder speculation in mining shares, there has been a rise of nearly 50% in the cost of living and the general commodity list. Prices of real estate all over the country have reached almost prohibitive figures, and a heavy fall in these prices is reasonably certain. A current despatch reports the passing of a thousand emigrants

a day through Winnepeg and in one day the Rock Island road took out of Kansas City 9,000 passengers on land-seekers excursions. A Kansas banker reports that at present land prices a farmer cannot make over 5% on the valuation of his farm. Another despatch reports 10,000,000 acres of land in the Canadian Northwest held by speculators. These are all familiar earmarks of the land boom of the '80s, which ended so disastrously for the country.

The price of copper has been almost double the average price of but a few years ago. The price of cotton is approximately double the low levels of a few years ago. The earnings of the United States Steel Corporation and other enterprises have been something fabulous.

This huge wave of prosperity is not confined to the United States nor North America. It is world-wide. It has been equally felt in Germany, and in Egypt, in Italy and the Argentine, in South Africa and Japan. It would be a miracle if it were not followed by a considerable recession.

Again, the past few years have shown a steadily rising flood of immigration, amounting through 1906-7 to an average of over 3,000 immigrants a day, through the single port of New York. It is to be noted that such a heavy rise of in-coming population has generally preceded a period of depression. Then, too, should the summer and fall of 1908 be a period of falling markets, it is altogether probable that a change of administration would take place. It has been shown by the writer that in the last forty years a period of depression and declining values has invariably resulted in such change, with one single exception.

If a business decline should come, it is obvious that the bubble of inflation will be punctured. Prices will fall generally, simply because in the contraction of credits which must ensue the world will have less paper capital and paper profits with which to buy. With the prevalent scarcity of money, railway and other enterprises will postpone heavy improvements, the demand for labor will be slackened, many will be out of work and this will impose a certain tax on the community for the support of the unemployed.

How far this curtailment of business will proceed, it is obviously impossible to forsee. But this much may be said: While business conditions all over the world are generally unsound, it

seems certain that they are nothing like the conditions of '90-'93. The strain upon the banks is heavy but it is nothing like the strain that preceded the crisis of '93. It seems reasonable to infer, therefore, that if a sharp and severe depression should now ensue, it will be short-lived, and the recovery rapid, just as in the crisis of 1857.

On the other hand, if the general liquidation of commitments should not be extensive, if the business recession should be mild, it is easy to see that the element of instability would remain and that we should skim along in good hope to a more drastic and prolonged depression, such as followed '93. The majority of mankind are optimists. It was clearly a sheer and ungovernable optimism which, in the face of banking conditions and the over extension of credits shown from '90 to '92, produced in '92 the expectation of a return of good times.

It is the idea of the writer that the latter may be more or less the course of affairs within the next six or eight years.

Taking a long look ahead, it does not seem improbable that the high level of 1906 will not again be reached for many years—possibly not before 1920. There are many forces making for this result. Merely to note one, it is obvious that with the general rise in commodity prices, materials and labor, the cost of operation of railways has been rising steadily, while on the other hand it is difficult to raise railway rates. This, of course has been done, and rates on eastern railways, especially on the coal roads, in 1907 were generally 25% or more higher than in the year of demoralization, 1899. In some cases—as in the Baltimore & Ohio—they were 50% higher. But increased freight rates are not accepted cheerfully by the public, and increased passenger rates very uncheerfully. The winter of 1906-7 saw a perfect wave of hostile legislation sweeping through the various state legislatures over the country. All of this legislation looked towards lower rates rather than higher, in the face of the fact that farmers, laboring men, manufacturers and business men, generally, were getting from 50% to 100% more for their commodities than ten years previously.

High cost of operation means decreased earnings and a much smaller surplus for interest and dividends. Were a prolonged period of business depression to come, this would mean a decrease in gross earnings as well as in net, with still further im-

pairment of surplus. All this need not be viewed with any serious alarm, for it would be simply suicidal to cripple by legislation, or otherwise, the greatest single industry in the country—the transportation business, and even the years of depression bring no such heavy declines in railway earnings as is generally supposed. The decline in gross earnings from the top level of '93 (fiscal year closing June 30th) to the bottom year ('94) was only about 12% all over the country. Freight earnings fell 13.5%, but net earnings fell only 11.4%, the succeeding years showing a steady rise both in gross and net. It was much heavier than this in the unsettled West, but it was correspondingly less among the railroads of the East.

So, while it may be the part of over-optimism to look for a generally higher level of prices than 1906 for some years to come, it is doubtful if any depression would produce so heavy a fall as in 1893, just as the fall of '93 was less than the decline of '73. On the same line of reasoning, we may suppose that even in a period of general depression the average of railway prices would scarcely return to the low level of 1903, just as after the high prices of 1887 they did not quite return to the low level of 1884.

Both the rise and the fall in the period of 1881-1901 was less violent than in the preceding 20 years, and so we may suppose that the fluctuations in the period from 1902 to 1922 will be rather less violent than in the 20 years past. In other words fluctuations will lie within narrower limits. This will tend to decrease the opportunity of profit between buying and selling, but on the other hand the solidity of the investment will be enhanced and the risk of loss will be lessened. It is quite certain that in 1907 the railways in America were in an immensely more stable condition than at any time from 1880 to 1890. Their earnings as compared with their capitalization are higher—that is, the amount of capital required to carry on the transportation business of the country is proportionately lower, even on a much lower level of rates than 20 years ago; and the net earnings to the shareholders are much better. It is quite certain that in a broad way each cycle shows a distinct gain in the stability and profit of railway investments.

If this line of reasoning be correct, and if the experience of the two broad cycles in the forty years since the close of the

Civil War be on a sound basis upon which to estimate the course of the cycle to come, it does not seem impossible that the low level reached by prices in 1907 might be somewhere near the lower limit of this new cycle.

Prices and Investment Yield.

At least this is to be said: if the dividends paid by 20 of the solidest dividend paying stocks in 1907 be averaged, and this average dividend be divided by the average of the low price individually reached by each of these stocks in March of 1907, it will be found that the average yield to the investor at these prices was 6.2%, exceptionally high-priced stocks, such as the Delaware, Lackawanna & Western, paying 20%, being excluded from the list, as being of too great individual influence on the average.

This average yield of 6.2% was about at the highest which a selected 20 solid stocks have shown in more than 20 years. The yield of 20 of the best stocks on the list at the lowest individual prices reached in 1893 was practically the same figure—6.3%.

The yield of a similar list of solid stocks at the average of the individual low prices of 1896 was 5.5%, and a similar list at the average low price of 1903 showed a yield of 5.2%.

Estimation of values upon a basis of dividends is not, it is true, a very safe or reliable test. Still, taken through a series of years it is quite certain that the average dividends of 20 or more roads will approximate very closely the actual relative earning power of those roads; and it seems certain that dividends in 1907 on the solider and better managed roads were as stable as the dividends of a similar class of roads in '93. It is true that following the spectacular increase of the Union Pacific's dividend in August, 1906, there was a sort of wave of dividend increases; yet this could scarcely have been general if conditions had not seemed to justify such dividends in the minds of a fairly conservative body of men. Probably no dividend increase excited more unfavorable comment, aside from the case of the Union Pacific, than did that of the Pennsylvania; and yet it is certain that the Pennsylvania in 1906 was better earning its 7% dividend than it was earning its 6% dividend in 1905 and preceding years.

The meaning of all this is that in March, 1907, the best railway stocks on the list were selling on the same basis of yield

as of 1893, and the yield of 1893 was in turn the highest of any year in the period from 1886 to the close of 1906.

In a broad way it is obvious that the price of the best stocks as compared with their dividends will tend to approximate the prevailing rate of time money; that is to say, the average yield from an investment in stocks, taken year in and year out, will tend to preserve a fairly close relationship to the rate obtainable on good loans. Now, it is quite certain that there was nothing like the scarcity of money or bank strain in 1907 that there was in '93. Interest rates were not so high. In '93 confidence, which undoubtedly plays some slight, though absurdly exaggerated part in the fixation of prices, was rudely shaken by the failure of one great railway company after another. In 1907 there was nothing of this.

The obvious conclusion in the mind of the writer is this: A prolonged wave of prosperity, resulting in such a prolonged bull market as that from the beginning of 1904 to the close of 1906, three years lacking one month, is generally followed by a violent fall in prices. At such a time dividends are generally high and at the low level of prices reached in the subsequent decline the yield to the investor is apt to be as high, if not higher, than at the time of a severe depression, when money is scarce and prices seem tumbling to a bottomless pit.

It may well be that the general dividend level of 1907 cannot be maintained, and obviously if it should decline, the absolute level of stock prices might decline more or less in sympathy. Nevertheless it is to be observed that if an extensive liquidation of committments and borrowings were to ensue, the effect of this would be to relieve the bank strain and the prevailing scarcity of liquid capital. Always supposing that a counteracting force, like the depreciation of the currency, from the enormous increase in the stock of gold, be not actively at work, this would mean lower interest rates and a consequent lowered expectation of investment reurn.

A decline in the general dividend rate might therefore not necessarily imply a corresponding decline in prices and we should have the condition foreshadowed above, that is, that the low levels of 1907 might represent somewhere near the low level of a period of years.

It may well be that should a season of adversity come, stock prices would decline still further, but any considerable decline

could only be the result of such a continuance of high rates for money as has not been known in 40 years. Such a condition might result from a continued or increasingly large output of gold and it is evident that the gold production is a matter meriting the closest attention of the careful investor.

All that has been said in the preceding, concerning the general level of stock prices applies, it scarce need be said, only to averages, and should not be followed too implicitly in the judgment of individual properties. Even though the general level should remain below that of 1906 for some years, individual properties may rise far above the level of 1906. On the other hand, it is obvious that if after such a season of prosperity as from 1898 to 1906, a road could not in the climactic year of 1906 show fixed charges below 70% or 75%, it was pretty certainly headed for a receivership in any very serious depression. The stocks of such roads will present no attraction to the careful investor at any price, no matter whether the general level be high or low.

Prices and the Increased Supply of Gold.

Such in broad outline seems the general outlook of 1907. There is at the present time but one powerful factor working seriously to change the prospect—that is the possible depreciation of the currency through the increase in the gold stock.

Within the 10 years from '96 to 1906 the annual production of gold has more than doubled. It is estimated that within this period the world's money stock of gold has increased nearly 50%. To many this fact is of profound significance and to this they ascribe the quite extraordinary rise in prices of commodities and the like, which has come within the same period. So there are not wanting serious and sane-minded prophets who look forward to 20c cotton, to still higher general rates of interest—10% even.

Among this same class there is general expectation of a still further rise in the annual gold production, from $400,000,000 to perhaps $600,000,000. Even the most careful statistician of the subject, Hon. Geo. E. Roberts, Director of the United States Mint, looks forward to an average production of four hundred millions per year through the next ten years. That this enormous production, if continued, would mean a serious depreciation

of the money standard and a consequent rise in prices, is without question.

In the mind of the writer, however, these prospects seem doubtful. The Germans have a sententious phrase that "No tree ever grows quite to heaven." When the balance of merchandise trade in favor of the United States rose from a debit in 1896 to a credit of $664,000,000 in 1901 there were not lacking serious observers to regard the situation with alarm. The United States threatened to bankrupt the world. But even in the face of a still further rise in commodity prices, which of course swells the nominal figures of the tables, the balance has fallen considerably since, and it will probably not reach the level of 1901 again in many years.

So, too, it may prove with the gold industry. That gold mining should share in the world-wide expansion of business, seems elementary. There are few industries on a more speculative foundation. It would be extraordinary if, with the general outbreak of speculation all over the earth, gold mining had not taken on an equal activity. When this world-wide "boom" has run its course, when the speculative fever has met with a sharp, and perhaps serious check, it seems inevitable that the gold industry should show a similar reversal.

If it does not, it is fairly certain that, with perhaps a temporary reversal of form, prices will rise still further, stock values will be enhanced, providing that rates can be correspondingly increased, while bonds will fall still more, and the prevalent high rates of money of 1906-7 will look low in comparison. There is no more interesting question now engaging the attention of investigators, and the point is one which every intelligent investor will consider with care.

The Present Solidity of the Railroads.

But a point still more vital to consider is that first of all, anticipation (and still more, apprehension) tends always to outrun the reality, and secondly, that no wave of prosperity ever lifts prices quite as high as holders for a rise had hoped, and no wave of depression ever affects the value of solid securities as seriously as the familiar connotations of "panic," "crisis" and "depression" would suggest.

For the matter here in hand—that of railway investments—it is to be noted that no solid and honestly managed railroad

was ever forced into the hands of a receiver by any panic whatsoever.

Practically without exception a great failure has always meant a great scandal. It has meant dishonesty and little else. From 1892 to the close of 1896, about 56,000 miles of main track out of a total of about 180,000 passed into the hands of receivers. But this included huge systems like the Richmond Terminal (now the Southern Railway), the Wabash, the Erie, the Union Pacific, the Baltimore & Ohio, the Reading, the Atchison and the Northern Pacific, each and every one of which was a history of disgraceful stock watering or stock jobbing, and a shame to American railroading. Four of these failures, as the above citation shows, were due directly or indirectly to the evil influence and criminal practices of one man. Even roads like the Atchison were found actually to have stuffed their gross earnings; the B. & O. had charged actual operating expenses to construction and capital accounts. So heavily had the Pacific roads been loaded with debt that in the fairly prosperous year of 1892 the Union Pacific Railway showed fixed charges of 81% and the Union Pacific System of 91%, while in the year preceding the system had failed to earn its fixed charges. Fixed charges on the Northern Pacific in 1892 were 94%. With the generally unstable condition of the banks, loans exceeding deposits by 25% and more through the three years of 1890-1893, it would scarcely have been difficult for any intelligent observer to perceive that these roads could not escape a receivership and that their securities, their stocks, at least, were next to worthless.

But the great body of American roads, covering 70% and more of the total mileage of the country, stood firm, just as the better part of American roads stood firm in the depression of 1873-'77. A still higher proportion will stand firm through any depression to come. Fixed charges on the Union Pacific system in 1906 were 33%, on the Northern Pacific 29%, on the B. & O. 39%, the Reading 45%, the Atchison 42%. These roads, it is certain, will never again see the sheriff at their doors.

Not all the reorganizations were as successful, and some equally disgraceful stock watering and stock juggling have brought old and safe and finely managed properties into a highly unsound condition. It is to the credit of present day railway finance that these obvious swindles have brought the securities of these properties into thorough disrepute.

But it is safe to say that upwards of 75% of American railway systems are sound and stable, and this is undoubtedly a percentage which no other business in the country, not excepting the banking business, could show. It is not without meaning that roads like the New Haven, the New York Central, the Pennsylvania, the Illinois Central, the Chicago & Northwestern, the St. Paul and other well-conducted railroads have weathered the storms of '73 and '93 with no serious loss to their shareholders. Dividends have been passed for a time, but they have been speedily resumed and the shareholder who has not been frightened out has had his reward.

Factor of Safety.

There remains but one point to which, in view of the conditions roughly sketched above, the writer would call especial attention. That is, that the investor should look well, always, to the factor of safety. Before he puts his money into any road, no matter if it be on the recommendation of the greatest banker in the United States, let him consider how far that company is prepared to weather a storm. Few roads ever prospered under receivership, no matter how honest or how able. The receivership itself is a handicap. No matter how high the yield, no investor whose primary regard should be the safety of his money will put it into a road whose fixed charges, after ample charges for maintenance, consume much more than 50% of the total net income available for interest, dividends and improvements—that is, save in exceptional cases like the New York Central—and until he has satisfied himself thoroughly that the property is sound.

For the convenience of those not well acquainted, the following list of the principal roads is given, with the percentage of total net income consumed by fixed charges in the highly prosperous fiscal year of 1906.

Table of Fixed Charges.

Atchison, Topeka & Santa Fe	42%	Chic. & Eastern Illinois	68%
Atlantic Coast Line	57%	Chicago & Northwestern	39%
Baltimore & Ohio	39%	Chicago, Burlington & Quincy	45%
Boston & Maine	78%	Chicago Great Western	67%
Canadian Pacific	33%	Chicago, Milwaukee & St. Paul	32%
Central of Georgia	47%	Chic., St. P., Minn. & Omaha	42%
Central R. R. of N. J.	50%	C., C., C. & St. Louis	69%
Chesapeake & Ohio	53%	Colo. & Southern	55%
Chicago & Alton	73%	Delaware & Hudson	40%

Del., Lackawanna & Western	38%
Denver & Rio Grande	52%
Detroit, Toledo & Ironton	87%
Duluth, So. Shore & Atlantic	115%
Erie	66%
Grand Rapids & Indiana	76%
Grand Trunk	65%
Great Northern	26%
Hocking Valley	31%
Illinois Central	47%
Iowa Central	79%
Kansas City Southern	54%
Lake Erie & Western	69%
Lehigh Valley	46%
Long Island	101%
Lake Shore & Mich. So.	38%
Louisville & Nashville	54%
Maine Central	46%
Michigan Central	57%
Minn. & St. Louis	77%
Minn., St. P. & Sault Ste. Marie	44%
M., K. & T.	75%
Missouri Pacific	60%
N. Y. C. & Hud. River	64%
N. Y., Chic. & St. L.	41%
N. Y., N. H. & Hartford	48%
N. Y., Ont. & Western	53%
Norfolk & Western	37%
Northern Central	28%
Northern Pacific	29%
Pennsylvania	38%
Pitts. & Lake Erie	11%
Pitts., Cin., Chic. & St. L.	54%
Reading	45%
Rock Island	83%
Rutland	69%
St. L. & San Fran.	82%
St. L. & Southwestern	76%
Seaboard Air Line	78%
Sou. Pacific	49%
Southern	69%
Texas & Pacific	40%
Tol., St. L. & Southwestern	61%
Union Pacific	31%
Vandalia	54%
Wabash	80%
Wheeling & Lake Erie	90%
Wisconsin Central	69%

Importance of Fixed Charges to the Investor.

The high degree of stability imparted to interest payments and dividends by a low percentage of fixed charges and the high degree of instability imparted by a large percentage, is so elementary that it would seem to need no emphasis. And yet this item is habitually disregarded by perhaps 90% of bond buyers and stock buyers. On this account it may be worth while to illustrate by simple comparison the effect, for example, of a 20% decline in gross or net earnings. We will compare the conditions of two roads whose Fixed Charges are respectively 75% and 25% of the total net income. The operation would be as follows:

		Suppose a 20% Decline.	
Say Earnings ...	$1,000,000	$800,000	
Exp. (70%).	700,000	560,000	
Net	$300,000	$240,000	
If F. C. 75%=..........	225,000	225,000	
Surplus for div..........	$75,000	$15,000	(Case I)
	Decrease......80%		
If F. C. 25%=..........	75,000	75,000	
Surplus..............	$225,000	$165,000	
	Decrease......26%		(Case II)

It will be seen from the above that a 20% decline in the net earnings would, in the first instance, mean a decrease of 80% in the surplus, while in the second case the same decline would mean a decrease of only 26% in the surplus—figures which sufficiently indicate what a high percentage of fixed charges means.

In this connection it may be further noted that in the large holding companies, like the Pennsylvania, the New York Central, the Union Pacific, and others, the factor of safety and the surplus shown tends to be relatively more stable than in companies largely or exclusively dependent upon the earnings of their own roads. This is due to the general custom of American railways of paying out in dividends only a part of the actual surplus earned. From this it results that dividends are much more stable than earnings and that the income of the holding companies from this source will correspondingly show smaller fluctuations than earnings. When, therefore, as in the case of some of the large holding companies named, the income from investments represents a considerable portion of the total net income shown, the surplus, other things being equal, will be much more stable than in other companies.

It is needless to add that this stability is still further heightened when, as in the case of the Pennsylvania, Union Pacific and some other roads, the percentage of fixed charges is at the same time low.

Over Capitalization.

Perhaps it may not be out of place likewise to suggest that investors have little need to be frightened at the prevalent hue and cry of over-capitalization. There are among the railway companies many instances of unquestionable over-capitalization, but taken as a whole, it is certain that the capitalization of American railways is low.

The statistics of the Interstate Commerce Commission show that at the close of the fiscal year of 1905 there was outstanding a total of:

Stocks	$6,554,557,051
Bonds and Other Obligations...	7,250,701,070
Total...............	$13,805,258,121

On the basis of an estimate of 218,101 miles of main track, this is equal to a par capitalization of $65,926 per mile.

The report further shows that the railway companies owned, of their own and other corporations, stocks to a par value of $2,070,050,108 and bonds to the amount of $568,100,021, or a total of $2,638,152,129. This means that there was outstanding in the hands of the public a little over $11,000,000,000 of securities. This would mean an actual net capitalization of about $54,000 per mile.

But this is the net capitalization simply of the mileage of main track, and does not take into account all the second, third and fourth track, yard trackage, sidings, &c., of which there was in 1905 nearly 100,000 miles additional, or a total of 306,796 miles. If the net capitalization of $11,200,000,000 be divided by this total mileage, the average net capitalization would be reduced to about $36,000 per mile.

Now it is quite certain that in 1907 there were not many places in the United States where a good railroad could be laid down and equipped for operation for less than $20,000 per mile. It is highly improbable that the railways of the United States could, as a whole, be reproduced for an average of $30,000 per mile, bare cost, without any regard to terminal facilities, right of way, coal, land, timber, steamship, and countless other holdings.

For the proposed extension of the St. Paul road from the Missouri River to Puget Sound, it was optimistically estimated that the road could be built for $50,000 per mile—a single track line. This was doubted by many engineers, and the St. Paul is one of the best-managed, and its gross capitalization per mile among the lowest of any railway in the United States. It is quite certain that there are many sections of the Pacific roads, of the Pennsylvania lines, &c., which could scarcely be reproduced at much less than $75,000 per mile.

It is quite certain that the terminal facilities of the railways in the great centers, like New York, Philadelphia, Pittsburg, Chicago, San Francisco, Seattle, New Orleans, Galveston and the like; the right of way for lines through rich and long settled states like Massachusetts, New York and Pennsylvania; the enormous coal holdings of the "anthracite coalers," like the Reading, the Lackawanna, &c.; the holdings of the "soft coalers"; the huge land holdings of the Northern Pacific and other lines; the ore lands of the Great Northern; the steamships of the Great Northern, the Southern Pacific, the New Haven, &c., taken together represent a property valuation rising easily into the bil-

lions of dollars. The Pennsylvania Railroad is spending a hundred millions simply to put its tracks under Manhattan Island. The New York Central is spending fifty or sixty millions on its already enormously valuable New York terminals.

Practically No Watered Capital.

It is safe to say that the railroads of the United States, less the market value of their holdings, could scarcely be reproduced today for their actual net capitalization. It is not probable that there is any other extensive business interest in the United States, or for that matter in the world, for which such a claim as this can be made. There are few successful small industries and not many large ones in the country which are not valued at, and earning profits on a valuation, anywhere from five to fifty times their actual physical cost. The average price of the stocks and bonds listed on the New York Stock Exchange, even at the high prices of 1906, was rather below par.

It seems to be forgotten likewise that a considerable part of the stock capital of the railways still represents little more than possibilities, that even in the flush year of 1905 on only two-thirds of this stock capital were any dividends being paid at all, and that in 1895 less than 30% paid dividends. The average rate on all the railway stocks of the United States in 1905 was only about 3% and in 1895 only 1.5%. In no other industry are the average earnings on nominal capital so low. The average country merchant or small shop keeper who made less than from 15% to 30% on his invested capital would picture himself as approaching bankruptcy.

The cry of over-capitalization can have its origin only in an utter ignorance of industrial and economic facts. What the average clumsy novice at corporation tinkering apparently can never understand is that, as a rule, over-capitalization is to no one so harmful as to the company itself. This fact has recently been exemplified by the Southern Railway, and many other properties.

The demands for dividends on watered capital are rarely, if ever, a factor in rate making. For example, the percentage of its gross earnings paid to invested capital by the Chicago & Alton in 1906 was actually only 27%, as compared with 40% in 1898, the last year of the Blackstone management, when the Chicago & Alton was considered a low capitalized property; and

freight rates in 1906 were 22% lower. The Chicago & Great Western is one of the three or four most absurdly over-capitalized railways in the United States, and there is not a line in the United States whose average rates are so low, or show so small a percentage of net profit from actual operations, quite disregarding the return on the capital invested.

The present writer would be the last to defend such deals as that of the Chicago & Alton, the Rock Island and their like, but it is to be noted that the wrong is to the investor—the ignorant and credulous investor—and not to the shipping or travelling public, not to the people as a whole. There is nothing to show that low capitalization means low rates; and it is highly improbable that any well-managed property will suffer from hostile or confiscatory legislation.

The securities of over-capitalized and watered companies tend to seek their natural and intrinsic value, and the investor in railway securities has far more to fear from ill-judged advice, from "tips" and rumors, from enthusiasm or fright,—in a word, from mistakes in his own judgment or from failure intelligently to anticipate the course of business conditions.

He has little to fear from hysteria. Waves of anti-railroad agitation come and go with the flux and reflux of the business tide; but the roads remain.

It is not without interest that many of our roads have now been in existence, some of them continuously paying dividends, for more than half a century. They have come to stay. They will be here at the end of another half century. No legislation will destroy them, no dishonest management will materially cripple them, and they are in the end the solidest, safest and most profitable field of investment to be found anywhere in the world. Taken as a whole, they are managed with pre-eminent skill and ability. Taken as a whole, they are honestly managed. To the shrewd and careful investor buying when their shares are obviously low and other folk are frightened out, selling them out again when they are obviously too high, and when the foolish folk who sold at the bottom can see only the most roseate future, they present a greater opportunity of profit, with a smaller element of risk, than any other form of property in which he may place his surplus funds.

Note On "Concealed Earnings."

In the spring of 1907 it became increasingly evident that the general rise in wages, cost of materials and supplies was telling heavily on the operating expenses of the railroads and tending greatly to reduce their net earnings, in spite of a general increase in the gross business done. The general rise in commodity prices is computed by the government statisticians at from 40 to 50% since 1896. The tables compiled by *Dun's Review* and *Bradstreet's* confirm this conclusion. Railway officials make about the same estimates for their own operating expenses.

The full force of this has been especially felt through the year of 1906-7; and nowhere more so than in the costs of maintenance. An examination of six leading railways of the United States, including the New York Central, the Pennsylvania, the Illinois Central, the Louisville & Nashville, the Atchison and the Southern Pacific, shows that maintenance charges, reduced to their element units, engine and car mile, have increased on the average 50% since 1900 and in some instances have doubled.

This is in part due to the introduction of heavier equipment, and it seems to be forgotten that while larger cars and engines have made it possible to keep down the "cost of conducting transportation," they have necessitated much heavier charges for roadway and repairs. The rest is due largely to increased costs. It is evident that all this represents no gain whatever to the stockholders or to the road.

The practice, therefore, of finding large concealed earnings through a comparison of maintenance charges in 1906-7 and the scale of some six or seven years previous, is wholly misleading and investors will exercise a healthy distrust of any such showings. It was the concurrent opinion of two operating officials, as expressed to the writer, that there were, save in rare instances, no concealed earnings in the maintenance accounts of 1906-7 generally.

ALABAMA GREAT SOUTHERN RAILROAD.

The Alabama Great Southern is a part of what is known as the Queen & Crescent route, composed of the Cincinnati, New Orleans & Texas Pacific and several subsidiary companies, operating between Cincinnati and New Orleans. The Queen & Crescent route is to all intents a part of the Southern Railroad system and a large majority interest of the Alabama Great Southern is owned by the Southern Railway. The officers and directors of the line are largely the same as those of the Southern.

In 1906, the company had outstanding the following securities:

Common stock	$ 7,830,000
Preferred stock	3,380,350
Total stock	$11,210,350
Funded Debt 1st mtge. 6% bonds	1,750,000
Gen. Mtge. 5% Sterling	3,207,600
Certificate of funded arrears of dividend on pfd. stock	399,464
Equipment Trust Obligations	2,427,000
Total capital and funded liabilities	$18,984,414
Total capital, per mile	$61,438

The company directly operates 309 miles of track and its gross earnings in 1906 amounted to $3,774,620, or $12,215 per mile.

A very striking characteristic of the income account was the fact that the operating ratio was 81%, both for 1905 and 1906. Upon examination it will be found that this high operating ratio was in large part due to enormous overcharge for maintenance, the items for several years comparing as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	645,726	$ 945	$1,358	$2,293
1901-2	713,696	1,220	1,413	2,633
1902-3	792,919	1,450	1,539	2,989
1903-4	947,443	1,638	1,945	3,583
1904-5	1,019,806	1,697	2,241	3,938
1905-6	1,179,828	1,980	2,819	4,799
Aver. for 6 yrs	883,236	$1,488	$1,885	$3,372

On a road of this traffic density it is probable that from $2,500 to $3,000 would have represented an ample maintenance charge, so that the surcharge for 1906 was probably in excess of $2,000 per mile. This on 309 miles of road operated was equivalent to a total of $618,000.

The nominal total net income shown was $766,062 but if the amount of surcharge indicated above be added to this, the actual income was probably in excess of $1,350,000. Interest, rentals and other deductions from the income amounted for the year to $367,597, which would represent less than one-third of the estimated actual net income, leaving a very large margin of safety for these securities.

Deducting interest, rentals, &c., from the estimated net income would have left an actual surplus of around $1,000,000. The 6% dividend on the preferred called for only $202,821, so that the actual earnings on the $7,830,000 of common stock was in the neighborhood of 10%.

Six per cent. is being paid on the preferred stock, no dividend upon the common. The arrears of dividend on the preferred have been funded, so that there are no longer any back payments to be made and there seems no reason now why the common stock should not be receiving a dividend.

The preferred stock may be regarded as a solid 6% security with no danger of its dividend payments being impaired. As to the question of dividends on the common, that is a matter which will probably be determined by the exigencies of the Southern Railway. But it matters very little to the holder of the stock whether the surplus of earnings is put back into the improvement of the road or accumulated as cash surplus, or paid out as dividends. It seems fairly obvious that a 5 or 6% dividend could be paid on the basis of the earnings for 1906 and should the road continue to show the excellent results of 1906, and the years immediately preceding, it seems altogether likely that such a dividend would be declared upon this stock.

As of June 30th, 1906, the Southern Railway owned $4,540,050 par value of this common stock, so that it would have a very generous interest in a dividend, if it were to be declared. Bought and held towards such an eventuality, at below 40 or 50, it would seem as if this were an excellent purchase.

ATCHISON, TOPEKA AND SANTE FE RAILWAY.

The "Atchison," as it is familiarly known, is one of the great railroads of the country, the only one owning its own line from Chicago to the Pacific, reaching over a vast territory, and now after many troublous years, becoming, under a fine and conservative management, a magnificent property. It has been extending steadily within the last ten years, and year by year, as the country through which it runs develops, its traffic grows more and more varied, and the road itself thus becomes less and less dependent upon any single industry, or on any single section. The Atchison was at one time the largest single railroad in the world, and though under foreclosure it was shorn of a considerable part of its mileage, it still ranks among the ten greatest.

History.

The Atchison was organized, or at least projected, back in the war days by a daring Kansas promoter; but it was some time before funds were secured with which construction of the road could be begun. The earliest part of the road, from Topeka to Emporia, in central Kansas, was not opened until 1870, and the extension between Topeka and Atchison in 1872. The company had been endowed with a splendid land grant in case the road was completed as projected, by 1873. In the ten months that followed the opening of the line to Atchison, the company carried the road westward 340 miles, and the land grant was saved. It was a feat which even in America, where railroads were wont to be built with lightning rapidity, has scarcely any parallel.

In the depression that followed the road suffered, but it plucked up courage again, and in the early eighties, more than three thousand miles of new road were constructed; it gained control of some 3,500 miles of other road, so that by 1887 it was operating over 6,000 miles. The extension to the Pacific was then begun, and completed in 1888; and by 1890, through the lease of the St. Louis & San Francisco and the Colorado Midland, it was operating over 9,000 miles, more than any other railroad company in the world.

The road as it stood then was largely the creation of President Strong, whose ability and daring color one of the most colorful chapters in American railway construction. The road was extended too rapidly, however, for safety, and in 1889 it was forced to a reorganization, and the Strong management eliminated. But even the reorganization failed to put it on a solid financial basis, and in the depression which followed 1893, the road went into bankruptcy, and was reorganized into the present company. The St. L. & S. F. and the Colorado Midland were cut out of the system, and one of the ablest and most conservative managers of the country, Edward Payson Ripley, placed at its head. Since that time the record of the road has been one of unbroken and splendid growth, with gradual extension as the needs of its territory demand.

At the close of the fiscal year of 1906, the road was operating 8,444 miles and controlling through ownership of stocks and bonds auxiliary lines aggregating 1,093 miles, with 393 miles under construction. Of the auxiliary lines, 740 miles were included in the operating reports of the system, instead of separately, beginning July 1st, 1906, making a total of 9,184 miles.

Of this total, nearly 300 miles is double-track, and very shortly the entire line from Chicago into central Kansas will be double-track road. The lines of the system extend from Chicago through Kansas to Denver, and southward through Albuquerque to Los Angeles and San Francisco, with various branches which carry the road to El Paso and Pecos City in Texas, and southward from Kansas to Galveston and Matagorda, with branches into the Beaumont oil fields. The completion of a short bit of track will give the road a second line from Kansas City to Albuquerque, with much lower grades, and further extensions under way will complete the Galveston-Albuquerque line, which eventually will be extended to New Orleans. The Atchison will then parallel the Southern Pacific throughout the Southern's entire length. It has the nucleus of further extensions in a small road running southward from Eureka in northern California.

Ownership.

The Atchison has the distinction of having a larger number of stockholders than any other railway in the United States save the Pennsylvania. In 1905 it reported to the Interstate Commission 17,523 stockholders. It is one of the great independent roads and long remained free from the domination of any special interests. In

1904, however, the Union Pacific interests, it was reported, acquired $25,000,000 of the stock in order to insure harmonious relations between the two properties. But this stock was not, up to the printing of the 1906 report, openly held by the Union Pacific, though it is very well known that the Atchison and Union Pacific work together in very friendly rivalry.

In a discussion of the question of railway control in the United States in the "Wall Street Journal" in 1906, it was accounted that the dominant figures in the Atchison are H. H. Rogers of Standard Oil, E. J. Berwind, a great coal operator, H. C. Frick of Pittsburg, and J. P. Morgan. All of these were in the directorate of the road save Mr. Morgan, who is represented by Charles Steele. The other directors were: Edward P. Ripley, president; Victor Morawetz, chairman of the board, and long the general counsel of the road;; Thomas B. Fowler, persident of the New York, Ontario and Western; George G. Haven, a New York capitalist; H. Rieman Duval, a director of the Seaboard Air Line, the American Beet Sugar Company and other enterprises, New York; Byron L. Smith, of Chicago, a director in the Chicago and Northwestern; Benjamin P. Cheney of Boston;; Charles S. Gleed and Howell Jones of Topeka; Andrew C. Jobes of Wichita, Kan.; and John G. McCullough of Vermont, also director in the Erie Railroad. The board is divided into four divisions, each set holding for four years, so that the control of the road would not immediately pass even though any single interest were to obtain stock control.

The make-up of the executive committee, always a most significant fact as indicating the location of control, included Victor Morawetz, chairman, also a director in the Norfolk and Western; Edward P. Ripley, president of the road; H. H. Rogers, likewise a member of the executive committee of the St. Paul and director in the Union Pacific road; Charles Steele, a director in the Erie, the Reading, the Northern Pacific and other Morgan interests; George G. Haven, a director in the Morton Trust Company and the National Bank of Commerce of New York, the Mutual Life Insurance Company and many other enterprises; Thomas P. Fowler of the N. Y. and Ontario, and Edward J. Berwind, also a director in the Morton Trust Company and in the National Bank of Commerce, and very closely associated, though not a director, in the affairs of the Pennsylvania R.R.

It will be seen from this analysis that many interests are represented and no single one, apparently, is predominant.

Capitalization.

With stocks and bonds amounting to and selling on the open market for nearly half a billion dollars, the Atchison represents one of the largest single companies in the country. Its capital account on June 30th, 1906, stood as follows:

Common stock	$102,000,000
Preferred stock	114,199,530
Total stock	$216,199,530
Funded Debt (net, including auxiliary lines)	280,378,300
Total capital	$496,577,830

Approx. capitalization per mile	$58,887
Average miles operated	8,434
Net earnings on total capitalization	5.9%
Stock on total capitalization	43%
Fixed charges on total net income	42%
Factor of safety	58%

In the makeup of the capitalization table both the rentals paid and the securities owned are so small, compared with other items, that they may be neglected, the one about balancing the other.

In the above table the bonds of the auxiliary companies not held in the Atchison's treasury are included, to the amount of $5,732,500, and also the bonds of some leased lines, on which interest is paid as rental, to the amount of $1,708,000. On the other hand the Atchison's own bonds, to the amount of $2,528,436 held in its treasury, have not been included.

On the basis of the average mileage operated, the Atchison's capitalization per mile, it will be seen, is high for a western but not for a Pacific road, though the figures shown would be reduced by nearly ten per cent. if the 740 miles of auxiliary lines of the road included in the mileage of the system since 1906 had been taken into consideration. As it stands, the Atchison, with $58,887 per mile, compares with $30,257 for the Chicago and Northwestern, $33,900 for the St. Paul, $28,600 for the Canadian Pacific, $73,992 for the Union Pacific, and $64,426 for the Southern Pacific.

That this capitalization is high is further shown by the percentage which the net earnings represent on this total capitalization. The Atchison's figure of 5.9% compares with 10.5% for the North-

western, 9.7% for the St. Paul, 9.4% for the Canadian Pacific, 8.0% for the Union Pacific, and 6.6% for the Southern Pacific.

The amount of stock nearly balances the amount of bonds, the stock in the above table amounting to 43% of the total capitalization. Included in the Funded Debt is over $41,000,000 of bonds convertible into common stock at par ($50,000,000 authorized) and as the Atchison common rises above par, this conversion will probably take place, with the effect of reducing the funded debt and increasing the proportion of stock.

That the drastic reorganization of the road which took place with the foreclosure of 1895 was effectively done is evidenced in the fact that in 1906 fixed charges consumed only 42% of the Total Net Income. This leaves a Factor of Safety for the underlying securities of 58%.

The full 5% dividends on the preferred consumed about 20% of the total net income of 1906, so that there was still left a comfortable margin of safety for these securities.

Equities Owned.

The Atchison has, pledged as security for the funded debt, $32,296,000 in bonds of subsidiary companies in which the chief item was $21,000,000 of Gulf, Colorado and Santa Fe bonds, and in addition to this, stocks of a par value of $14,379,697, its unpledged securities amounted in 1906 to $2,837,000, but the larger part of this latter item is the two and half million dollars of the company's own general mortgage bonds already referred to.

The valuation of the securities pledged is not given, but if they were taken at their face value they would reduce the estimated capitalization of the company by about 10%.

Increase of Capitalization.

Since the reorganization of the company in 1895, the amount of common and preferred stock has remained unchanged. In the six years from 1900 the funded debt was increased mainly through the issue of $41,000,000 of convertible 4% bonds (two issues) sold to provide funds for additional construction and the general betterment of the system and $30,000,000 of serial debentures. In the same period the gross earnings increased nearly 70%. The comparison follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1899–0	$102,000,000	$114,199,530	$191,236,500	$407,436,030	$46,232,078
1905–6	102,000,000	114,199,530	275,484,800	491,684,330	78,044,347

Increase over six years: Total capital, 21%; gross earnings, 68%. At the beginning of 1907, the issue of $100,000,000 new convertible bonds, with a corresponding amount of stock, to be held against this, was authorized, and in 1907, $26,000,000 of these bonds, bearing 5% interest, were issued.

Character of Traffic.

In former times the Atchison was mainly dependent for its revenue upon the grain fields, but the impression that this is still true is erroneous. A very interesting change has come over the Atchison traffic within ten years, the various items of this change comparing, in per cent. of tonnage, as follows:

	1896.	1906.
Products.	%	%
Agricultural	30	24
Animal	13	8
Mines	27	31
Forests	9	13
Manufactures, etc...............	21	24
	100%	100%

It will be seen that relatively farm products and cattle shipments have very considerably declined, while minerals, lumber, manufactures, etc., have shown a considerable increase.

This is the healthiest sort of growth and it may be expected with the steady development of the Atchison's territory, and especially the development of its rich mineral fields, this change will be progressive, making for increased stability of earnings.

Stability of Earnings.

It will be seen from the following table that in the ten full years of operation as a reorganized company the Atchison's gross earnings have risen more than 160%, while the earnings per mile have very nearly doubled. In these ten years the earnings per mile have shown but a single instance of decrease from one year to another, and that too slight to be of interest. The increase for 1906 over the preceding year was especially notable, amounting to over 12%. But this was, it should be recollected, a year of extraordinary prosperity for all the railroads of the country.

Year	Miles Operated	Gross Earnings	Per Mile
1896-7	6,479	$30,621,230	$4,752
1897-8	6,936	39,214,099	5,653
1898-9	7,033	40,513,498	5,760
1899-0	7,341	46,232,078	6,297
1900-1	7,807	54,474,823	6,977
1901-2	7,855	59,135,086	7,528
1902-3	7,965	62,350,397	7,828
1903-4	8,180	68,171,200	8,333
1904-5	8,305	68,375,837	8,233
1905-6	8,433	78,044,347	9,253

This handsome increase in earnings did not result from any advance in freight rates, as has been the case with the Pennsylvania and other eastern roads, but was in the face of a distinct though no very considerable decline. The average rates per ton mile received by the Atchison have been:

Year.	Cents.
1892	1.25
1896	1.12
1900	.97
1906	.93

As the Atchison's territory steadily develops in railroads, these rates may be expected to decline still further, but it is obvious that they are not now very high, for the west, and that the natural gain in business ought more than counterbalance any possible reductions in rates that would be required.

Maintenance.

From the following table it will be seen that the total appropriations per mile for maintenance have increased in six years 70%, while the traffic density in the same period has increased only about 40%.

Year	Traffic Density	Maintenance per mile		Total
		Way	Equipment	
1900-1	496,579	$ 824	$ 801	$1,625
1901-2	538,733	781	1,001	1,782
1902-3	590,777	1,168	1,068	2,236
1903-4	572,404	1,121	1,223	2,344
1904-5	569,668	1,370	1,314	2,684
1905-6	693,873	1,479	1,271	2,750
Average	577,005	$1,123	$1,113	$2,236

Extra main track, 309 miles.

	Traffic Density	Maintenance per mile		Total
		Way	Equipment	
Nor. Pacific..	729,102	$1,300	$ 791	$2,091
Sou. Pacific.	594,898	1,446	1,246	2,692
Union Pacific	739,206	1,173	1,049	2,222
Rock Island.	462,106	1,022	759	1,781
Burlington...	580,024	1,104	1,032	2,136

It will be seen from the above comparisons that the amounts expended by the Atchison per year compare very favorably with the Southern Pacific and the Union Pacific, the former of which especially has been heavily charged for improvements in its operating expenses.

That the Atchison's charges are high is evidenced in the items for maintenance of equipment. These amounted in 1906 to $3,101 per locomotive, $888 per passenger car, and $103 per freight car. These are very high figures, and can only mean that large additions were made to the rolling stock of the company under the guise of maintenance.

From 1903 to 1905 Atchison suffered very severely from floods, and the increased maintenance charges through these and subsequent years represent, in part, an endeavor to repair the damage that has been done, out of earnings. But over and above these the operating expenses of the Atchison undoubtedly show considerable concealed earnings, which probably could be conservatively estimated at $500 per mile. Even if the 1906 average were reduced by this sum, it would still compare favorably, for example, with the St. Paul or the North Western. This on 8,400 miles of road would mean concealed earnings to the amount of over $4,000,000. That an item of something like these proportions was there speaks admirably for the management of the road.

Improvements.

But the Atchison's large maintenance charges represent only a part of the sums which have been expended on the road to bring it up to a high standard of efficiency. From the surplus earnings of six years the following sums have been deducted:

1900-1	Improvements...............	$1,000,000
1901-2	"	2,500,000
1902-3	"	3,000,000
1903-4	"	3,000,000

1903-4	Fuel Reserve Fund..........	239,500
1904-5	" " "	319,000
1904-5	Expenses, Bond sales........	1,083,000
1905-6	Improvements................	4,500,000
	Fuel Reserve Fund..........	218,000
	Total..................	$15,859,500

In addition to the above the following amounts were received as net proceeds of the sales of lands embraced in the Santa Fe Pacific Land Grant:

1902-3	$579,700
1903-4	570,400
1905	681,300
1906	366,800
Total..................	$2,198,200

The latter amounts were directly written off the book value of railroad franchises, etc., and do not appear in the income account.

If these items be added to the amounts written off for improvements this would represent a total of $18,057,700 surplus earnings turned back into the property in six years.

These sums are not large when compared with the enormous amounts required annually to maintain a huge system like the Atchison, but taken into consideration with the heavy maintenance charges they show that the policy of the road has consistently been one of large betterments from earnings.

Ten Years of Development.

The report of the Atchison for 1906 makes an interesting review of the development of the Atchison since its reorganization into the present company. Including in its operations the controlled companies, covering an aggregate of nearly eleven hundred miles of road, the following are the increases shown for the ten years ending June 30th, 1906:

Average operated mileage........................	47%
Gross earnings..................................	165%
Gross earnings per mile.........................	79%
Net earnings from operation (before charges)......	296%

For the year ending June 30th, 1897, there was no net income remaining after charges, while in 1906 the net income, including the undivided income of the auxiliary lines, after deducting all charges, amounted to $18,270,000. This was equivalent to the full 5% on the preferred stock, and 12.3% on the common stock outstanding.

During the same period the capital obligations of the company were increased only 25%.

In this same period the Atchison has paid out in dividends upwards of $60,000,000. This is a fine showing for a company which in 1897 could scarcely meet its running expenses and charges.

Surplus Earnings.

Disregarding the undivided surplus of the auxiliary lines, not a large item, the surplus over all charges, but before improvement appropriations, has been as follows:

Year	Surplus	Dividends Paid on Preferred 5%	Per cent. Earned on Common	Dividends Paid on Common	Average Price Calendar Year
1900–1	$12,474,529	5	7.7	3½	34
1901–2	15,564,527	5	9.8	4	70
1902–3	13,898,330	5	8.1	4	83
1903–4	15,359,771	5	9.6	4	72
1904–5	11,742,346	5	6.0	4	72
1905–6	17,733,209	5	11.8	4	87

The reduction in the surplus shown for 1903-4, and especially in 1904-5, was due to the heavy losses which the road sustained from floods. This is stated by President Ripley in his reports to have amounted in 1905 to a full 3% on the common stock. Heavy improvements and special constructions have been made to obviate these washouts, so that the recurrence of these losses, at least in any such magnitude, can hardly be expected. Even in the face of these losses it will be seen that the surplus shown on the common stock after payment of the full 5% dividend on the preferred, has averaged 9% in these six years.

Dividend Record.

Beginning with 1880, the Atchison began to distribute large dividends, and in 1881 a stock dividend of 50% was declared. Even in the face of this stock increase, dividends were maintained

at 6% for the succeeding 6 years. But this free-handed policy brought the road to disaster in 1889, and thereafter no dividends were paid until the reorganized company began dividends on the preferred in 1899. In 1901 dividends were begun on the common. The full record is as follows:

	Common.	Preferred.
	%	%
1879	3	..
1880	8½	..
1881	6 and 50% stock	..
1882-6	6	..
1887	6¼	..
1888	5¼	..
1889-98	..	..
1899	..	2¼
1900	..	4
1901	3½	5
1902-5	4	5
1906	5	5

At the annual meeting of 1906 the 4% dividend on the common was increased to a 5% rate, through the declaration of a 2½% dividend, and in 1907, the rate was still further increased to 6%.

The Balance Sheet.

At the close of the fiscal year of 1906 the balance sheet showed as follows:

Current assets, $23,141,559; current liabilities, $16,924,944; leaving a working balance of $6,216,615.

This is a very favorable showing, especially as regards the item of cash, which amounted to $17,321,750.

The balance to credit of Profit and Loss at the close of the year was $19,985,482, the larger part of which could be figured as cash.

Investment Value.

The preferred stock is limited to 5% non-cumulative dividends and the full 5% has been paid for six years. In the last five of these, the net surplus remaining over and above these payments has been equivalent to about 8% additional. This means

an average surplus for each year of about 2½ times the amount required for the preferred dividend. With the high character of the Atchison management, its heavy maintenance charges, and the writing off from earnings of considerable sums for improvements, Atchison preferred may now be looked upon as a solid 5% stock, likely to earn its dividend, and pay its dividend even in years of stress.

With money ruling at 4%, Atchison preferred is entitled to sell well above par. As a matter of fact its average price in five years has been rather below par. The stock sold as low as $58 per share in 1900 and $70 in 1901. It sold up to $108 in the latter year, declining to $84 in the slump of 1903. It was quoted at $106 in 1906. Though the dividend is limited, control of the Atchison would be a coveted asset to any road and with the common selling at the same figures or better, it may be expected that the preferred will sell in general very near to the average of such stocks. On any decline below par, it would certainly present an attractive purchase.

When Atchison common was put upon a 4% basis in 1901, it had just passed through a crop failure, and its mileage in unsettled regions was greater than that of any other road in the country, its equipment was in poor shape, and the road in need of improvements. The disbursement of $10,000,000 per anum in dividends, as the preferred and common required, at such a time, was a doubtful policy, and undoubtedly the road would be in a great deal better shape now had at least a part of its disbursements been turned back into the road.

The Atchison's policy has been exactly the reverse of that of the Southern Pacific, which, save on its preferred, paid no dividends whatever up to 1906, while its earnings have enormously increased. No one knows better than a railroad man how rapid is the deterioration of railway property and the Atchison was probably in little better position than the Southern Pacific when the Harriman management took hold of the latter.

But whatever criticism might have been justifiable in 1901 scarcely retains its force in face of the unprecedented prosperity of subsequent years. In 1901 the surplus shown by the Atchison for its common stock amounted to only $880 per mile; in 1906 these earnings were $2,100 per mile. This, in the face of heavy increase in the maintenance charges, seems amply to justify the increase in the dividend from 4 to 6%, as was done in 1906-7.

It is certain that a 6% dividend in 1906-7 had a far solider basis in the amount of surplus income than had a 4% dividend in 1901.

Against this is to be set over the fact that the six years under view have been years of simply phenomenal prosperity. It is a repetition of the early eighties. In the early eighties Atchison was paying higher dividends than it has ever paid since, and it is interesting to recall for example, that in 1880 Atchison was selling as high as $148 per share, and that as late as 1887 it sold at $118 per share; and this was after a 50% stock dividend had been declared in 1881. From 1893 to 1895 this stock habitually sold at from $3 to $5 per share. When, after two full years of operations, the reorganized company had shown excellent results, the stock could still have been picked up, in 1898, for $10 per share. In 1901, the year that the stock was put upon a 4% basis, it was to be bought for $42 per share, and for as low as $54 in 1903. In 1906 it sold at $110.

Meanwhile in more ways than one the Atchison is winning its right to the title sometimes given it of "The Pennsylvania of the West." It is to be observed that the Pennsylvania policy is not one of parsimonious dividends, nor of shrinking from heavy capital expenses. It is one of liberal maintenance, aggressive expansion, and the free issue of stocks and bonds. Such a policy is far safer in the Atchison territory today than in the Atchison territory of 1880 to 1890.

It seems not improbable that should the extraordinary earnings of 1906 show no heavy set-back, Atchison will remain on a 6% basis. If, with fine earnings and excellent prospects the stock on a 4% basis should average for the four years previous to 1906 around $80 per share, it is evident that on a 6% basis it would tend to sell at par or better. The high price of 1906 was in anticipation of a 6% dividend and when only a 5% rate was declared, the stock fell abruptly. But if the stock, on a 4% basis could sell at $54 to $64 per share in the panicky conditions of 1903-4, it might show a considerable recession from the 1906 figures. In March of 1907, it sold at $83.

In 1906, when the Baltimore and Ohio went to a 6% basis, it still failed to sell above $125 per share. And the Baltimore and Ohio stock had no load of convertible bonds to carry. It is evident that as soon as Atchison common sells considerably above par, the $50,000,000 of 4% convertibles will be turned into this stock. While this would decrease the Fixed Charges by $2,000,-

000, the percentage of Total Net Income required for the Fixed Charges is already low, so that this would have very little effect. On the other hand, the conversion into stock on a 6% basis would add $3,000,000 more to the dividend requirements, which is a considerable sum even for the Atchison.

The investor will probably conclude, therefore, that while Atchison 6% common at par represents a fairly solid purchase, the speculative outlook for a very great enhancement in the price is not so large as it might be if the convertibles were not in the way. But on any sharp declines below par the stock would undoubtedly present solid investment attractions.

The Convertibles.

The security of the Atchison convertibles is sufficiently shown in the discussion on the capitalization of the road. With total Fixed Charges, including these bonds, of something less than half the Total Net Income, it is obvious that the earnings of the road would have to show a tremendous slump before interest payments on these bonds would be endangered. They have not the safety of first mortgage bonds, but on the other hand there are excellent prospects of conversion into stock of much greater value within the next ten years.

It is obvious that the quotations on these bonds will more or less follow the fluctuations of the price of the common, and on any decline in sympathy with the latter, they would present an excellent investment of this class.

ATLANTIC COAST LINE RAILROAD.

The Atlantic Coast Line is, without doubt, the most extraordinary railroad organization in the United States, if not in the world. Directly this company operated in 1906 4,333 miles of rails, but it owned a controlling interest in the Louisville & Nashville, operating 4,205 miles of rails and directly controlling about 1,400 miles more. Jointly the Atlantic Coast Line and the Louisville & Nashville lease the Georgia Railroad, operating nearly 600 miles of track, and in addition the Louisville & Nashville has a half interest in the control of the Chicago, Indianapolis & Louisville (the Monon). Altogether, the Atlantic Coast Line controls, directly or by ownership of a half or greater interest, 11,784 miles.

The gross capitalization of this system is in excess of 400 million dollars, and the control of all this enormous property is held by the Atlantic Coast Line Company of Connecticut, merely a holding company, with but $10,500,000 of stock outstanding. This holding company owns a majority of the capital stock of the Atlantic Coast Line Railroad. In 1898 its then outstanding capital stock of $5,000,000 was doubled by a 100% stock dividend, and 2 years later, that is, 1900, $10,000,000 of 4% "certificates of indebtedness," practically the equivalent of 4% bonds, were issued to the stockholders as a second 100% dividend. That is to say, the original holder of stock in the road would now have twice the amount of stock and an equal amount of 4% certificates, or the equivalent of four times his original investment.

From this it will be seen that, supposing control to have been held by a single interest, this would have required originally an investment of a little over two and one-half million dollars; and this sum would now be represented by double this amount of stock, which in 1906 sold as high as $167 per share (in 1905 $170) and likewise by double the amount in 4% certificates, a solid security worth around par, with money ruling at 4%. That is, the holders of this controlling interest might in the interval have sold these certificates for twice their original investment,

and thus without having a dollar of real capital invested, still retain control of a company which, in its turn, controls over 11,000 miles of railway, with four hundred millions of capitalization. To what extent the original five millions of stock of the holding company represented an actual outlay of capital, the present writer has not been able to ascertain; but without going further back, it is doubtful if any such amount of capital has ever been developed to such far-reaching results in the recent history of American railroads.

History.

The Atlantic Coast Line Railroad grew out of the organization of the Atlantic Coast Line Company, which was organized in 1889, under the laws of Connecticut. Its purpose was the practical consolidation under one ownership of a series of Southern roads along the Atlantic coast and included the old Wilmington & Weldon, the Charleston & Western Carolina, the Wilmington, Columbia & Augusta, the Richmond, Fredericksburg & Potomac and a number of smaller lines. In 1898 several of these lines were amalgamated into the Atlantic Coast Line Railroad of Virginia and the Atlantic Coast Line Railroad of South Carolina. These two lines, with others, were finally consolidated into the Atlantic Coast Line Railroad in 1900. The Savannah, Florida & Western Railway, before known as the "Plant System," owning 2,235 miles of road, was merged in 1902, and this, with a number of smaller mergers brought up the mileage directly operated in 1906 to 4,333 miles. It also owns a one-sixth interest in the Atlanta (Georgia) Belt Line Company, and, as noted, leases, jointly with the Louisville & Nashville, the Georgia Railroad, operating 571 miles. The purchase of the Louisville & Nashville is discussed under "Equities Owned."

The Coast Line System was largely the creation of the late Wm. T. Walters of Baltimore, and his son, Henry Walters, formerly president and now chairman of the board. As illustrating the enhancement resulting from the merger, it was stated in the "Wall Street Journal" that an investor who owned in 1886 $10,000 par value of the old Wilmington & Weldon stock, then having a market value of $17,500, and who held it until it was converted into Atlantic Coast Line Railroad stock, received through the various consolidations and stock distributions which followed,

securities of a market value of about $175,000. In other words, the increment in value during this period was 1,000%.

The lines directly operated extend southward from Richmond and Norfolk to Tampa and Punta Gorda in Florida, with a connecting line of steamships owned by the company, the Peninsular & Occidental, extending to Havana and Nassau. Its lines extend westerly to Montgomery, Alabama, and via the Georgia Railroad to Atlanta. Throughout its greater length the Atlantic Coast Line is directly paralleled by the Seaboard Air Line and the Southern Railway.

As already noted, the majority of the stock of the Railroad company is owned by the Atlantic Coast Line Company of Connecticut, which in turn is owned largely in Baltimore and the South. In 1906, the president of the Connecticut company was Michael Jenkins, of Baltimore, and Waldo Newcomer was vice-president; other directors were: Henry Walters, Warren Delano, Jr., Alexander Hamilton and N. J. James. The directors of the Railroad company included: Henry Walters, chairman of the board; Alexander Hamilton, first vice-president; Michael Jenkins, Waldo Newcomer, Morton F. Plant, representing the Plant estate; F. W. Scott, E. B. Borden, Donald McRae, H. B. Short, J. J. Lucas, J. H. Estill, Warren Delano, Jr.

The property is very closely held, and in 1905 the railroad company reported only 883 stockholders. This is the smallest number for any large system in the United States, and compares with 9,572 for the Southern Railway and a similar number for the Illinois Central.

The Atlantic Coast Line system stands very distinctly apart from other roads and beyond the affiliations brought to it by the purchase of the Louisville & Nashville control, it is not closely associated with any other systems or interests.

Capitalization.

In 1906 the Atlantic Coast Line Company of Connecticut had outstanding:

Stock	$10,500,000
Certificates of Indebtedness	13,000,000
Total capital	$23,500,000

As of June 30th, 1906, the capital account of the Atlantic Coast Line Railroad was as follows:

Common stock	$42,980,000
Preferred stock	1,596,600
Class A	1,000,000
Total stock	$45,576,600
Funded debt:	
Mortgage debt	$77,708,850
Certif. of Indebt	21,568,800
L. & N. Coll. bonds	35,000,000
Total capital	$179,854,250
Securities held	56,955,299
Approx. net capitalization	$122,898,951
Approx. net capit. per mile	$28,403
Average miles operated	4,327
Net earnings on net capital	7.1%
Stock on net capitalization	37%
Fixed charges on Total Net Income	57%
Factor of Safety	43%

It will be seen that the net capitalization of the Atlantic Coast system is low, more nearly approaching that of the successful roads of the middle west, whose average capitalization is around $30,000 per mile, but whose mileage earnings on the other hand are around half again as great.

The estimate of $28,403 for the Atlantic Coast stands against a similar estimate of $47,453 for the Seaboard Air Line, $49,223 for the Southern Railway, $39,684 for the Louisville & Nashville and $31,771 for the Central of Georgia.

The fact of low capitalization is further evident in the percentage which the net earnings show on this estimated net capital. The figure of 7.1% for the Atlantic Coast compares with 8.9% for the Louisville & Nashville, 4.2% for the Southern Railway and 3.7% for the Seaboard Air Line. It will be seen that the stock represents a comparatively small share of the gross capitalization and about 37% of the estimated net capitalization.

On the other hand, the Fixed Charges in 1906 consumed only about 57% of the Total Net Income, leaving a nominal Factor of Safety of 43%. The road has a very considerable equity in its majority interest in the Louisville & Nashville, so that in point

of fact, the Factor of Safety is rather higher than above indicated.

It will appear further on that all of these estimates are on the basis of rather low maintenance charges; had the expenditures of the road been on the same liberal scale as generally prevails over the country, its surplus income would have been somewhat reduced.

Equities Owned.

In 1902, the Atlantic Coast Line acquired $30,600,000 of the $60,000,000 outstanding capital stock of the Louisville & Nashville Railroad, a majority interest. This stock had been purchased in the open market in a speculative deal by John W. Gates and his associates. The latter turned it over to J. P. Morgan & Co., who in turn sold it to the Atlantic Coast Line, receiving in payment $10,000,000 cash, $35,000,000 in 4% 50-year collateral trust bonds, secured by the deposit of the stock, and $5,000,000 par value of Atlantic Coast Line stock. This was equivalent to about $163 per share, rather higher than the highest market figure ever reached by this stock, either at the top of 1902 or 1906, which was $159 per share. It was considerably higher than the highest point touched during the competitive buying of the stock by the Gates party. It was, however, undoubtedly an excellent purchase. The Louisville & Nashville is out and out the best railroad property in the South. It has for some years been charging its maintenance very heavily for improvements and it has actually been earning rather in excess of 15% on its stock for some years. Though it has been paying only 6%, it might readily pay 7 or 8% and thus make fair return to the Atlantic Coast on the purchase price paid.

It has frequently been assumed that the Louisville & Nashville may be taken over under lease by the Atlantic Coast Line, in which case all of the surplus earnings would go to the leasing road. It is probable, however, that the minority shareholders in the Louisville & Nashville would hardly be satisfied with less than 8% guaranteed, so that with the increase in operating expenses within the last year or two, the surplus might not be large. It is quite certain, however, that in any event the Atlantic Coast Line has in this property an asset of immense value and undoubtedly worth much more than the purchase price paid.

The Louisville & Nashville shares are carried at a book value of $45,554,220 (the additional $5,000,000 paid in stock being

omitted). The balance of the sum included under securities owned is chiefly made up of the Atlantic Coast Line Company's own bonds, held in the treasury and therefore representing no equities.

Increase of Capitalization.

In the following table the increase of capitalization from the year of the consolidation is shown, but the $35,000,000 of Louisville & Nashville trust bonds, issued in purchase of that road have not been included. On this basis it will be seen that the increase in capitalization has been rapid, but the increase of earnings still more so. The items compare as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1900......	$15,890,200	$18,390,300	$24,426,500	$ 58,707,000	$ 7,586,746
1906......	42,980,000	2,596,600	99,277,650	144,854,250	24,868,448

Net increase over six years: Nominal capital, 146%; Gross earnings, 226%.

In March of 1906 new stock to the amount of $4,557,600 was offered to the stockholders at par, to 10% of their holdings. The effect of this was to increase the capital stock of the company to very closely $50,000,000.

Stability of Earnings.

No very satisfactory tabulation of the earnings of the system can be made back of the year of the consolidation. Since then, mileage and earnings have compared as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1899-00............	1,759	$7,586,746	$4,318
1900-1.............	1,756	7,915,099	4,507
1901-2.............	1,756	8,549,526	4,868
1902-3.............	4,139	19,682,456	4,756
1903-4.............	4,192	20,544,975	4,901
1904-5.............	4,307	22,222,903	5,160
1905-6.............	4,327	24,868,448	5,747

It will be seen that the increase in the earnings has been due mainly to the extension of the system and that the mileage earnings, at least up to 1906, had increased rather slowly. There was a quite notable increase for the year of 1906.

There is one characteristic of the Atlantic Coast Line's earnings that must be considered and that is the very high average rate which the company obtains. The average per ton mile for 1906 was 1.13c, which is among the very highest in the country for any large system and almost twice the average rate for the country at large. It is not, however, strikingly higher than that received by the immediate competitors of the road, comparing with 1.12c for the Seaboard Air Line, .93c for the Southern, .80c for the Louisville & Nashville. These figures compare, for example, with the average freight rate on the Norfolk & Western of .47c and of .55c on the Illinois Central. As to what extent this high average is due to the character of traffic, the very unsatisfactory reports of the company give no clue. The average train load is low, amounting to 168 tons in 1906, as against 204 for the Southern and 230 for the Louisville & Nashville.

Maintenance.

From the following table, it will be seen that the traffic density of the road is very small, smaller even that that of the Seaboard and hardly a third that of the Louisville & Nashville. It would be expected that the maintenance charges would be much lower but hardly in quite the degree that they were. The items compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	213,685	$619	$608	$1,227
1901–2	247,549	727	538	1,265
1902–3	258,100	723	520	1,243
1903–4	256,463	665	440	1,105
1904–5	272,087	731	517	1,248
1905–6	310,734	792	714	1,506
Average	259,769	$709	$556	$1,265
Louisv. & Nash.	929,594	$1,490	$1,537	$3,027
Southern	435,987	860	964	1,824
Seaboard	311,366	620	611	1,231

It may be that an average of $700 per mile of way was adequate for a road of this traffic density, but it hardly seems as if an average of $556 per mile for maintenance of equipment was sufficient. The proof of it may be assumed from the fact that in

1906 the road found itself handicapped for rolling stock, and at the beginning of 1907 was obliged to sell high interest bearing notes for the purchase of further equipment. It is safe to say that the road might readily have spent from two to three hundred dollars more per mile without more than keeping up to the general level of successful roads over the country, and this difference on four thousand miles of road would have meant a difference of from a million to a million and a half per year in the amount of available surplus shown. It is on this account that the showing made in the table following is to be taken with some reserve. This conclusion is emphasized by the fact that the road has not followed the general custom of other roads and turned back considerable sums from improvements into earnings. In other words, not only were maintenance charges low, but the nominal maintenance charges represented all that was put into the road from this source. There were no special appropriations from the surplus to make up for the somewhat conservative policy of the road in this regard.

Surplus Earnings.

With the reservations noted above, the funds available for dividends have shown as follows:

Year	Surplus	Dividends on Preferred Stock	Per Cent. Earned on Common	Dividends on Common	Average Price
1899–0	$2,152,406	2½	...	..	...
1900–1	1,755,980	5	5.4	2½	...
1901–2	2,270,257	5	3.4	3½	...
1902–3	2,993,029	5	8.0	5	116
1903–4	4,283,482	5	11.6	5	130
1904–5	4,669,712	5	10.4	5	145
1905–6	4,816,942	5	10.7	6	149

It will be seen that in the last three years under view, the road nominally earned rather more than 10% on its common stock. But it is safe to say that under a more liberal maintenance policy, these figures would have been reduced, perhaps by 20 or 30%.

It is not quite clear why, with such rates as it obtains, earnings should not have been greater. The operating ratio for 1906, 65%, was not low and maintenance charges were not responsible. In other words, the line is apparently an expensive one to operate,

Dividend Record.

The following shows the dividend payments of the different classes of stock from the year of the consolidation:

Year.	Dividends Common (and Class A certfs.)	Preferred.
1900		2½
1901	2½	5
1902	3½	5
1903	5	5
1904	5	5
1905	5	5
1906	6	5

The amount of preferred stock has been steadily diminishing, so that almost the entire surplus is available for dividends on the common. It will be seen that after three years as a 5% stock, late in 1905 the common stock was put on a 6% basis.

In the period under view, rights of very slight value accrued through the issue of $8,500,000 of stock in 1902, subscribers being offered this stock at $125 per share to the amount of 40% of their holdings; in 1906, $4,557,600 worth of stock was issued to the shareholders at par, the rights on the same showing a small premium.

In addition to the above, in Jan., 1905, an extra dividend of 25% was paid on the common stock of which 20% was in common stock scrip of the railroad company, and 5% in certificates of indebtedness of the Atlantic Coast Line Company of Connecticut.

The Balance Sheet.

At the close of the fiscal year of 1906, the balance sheet showed:

Current Assets	$8,556,203
Current Liabilities	4,254,838
Leaving a working balance of	$4,301,365

There were also deferred liabilities of $1,503,482, partially offset by deferred assets of $254,760. The amount of cash was

$5,118,029 and the amount to credit of profit and loss was $9,-297,363.

Investment Value.

In 1902 the preferred stockholders were given the option of exchanging their shares at the rate of $100 of preferred stock for $125 in 4% certificates of indebtedness. The preferred is entitled to non-cumulative dividends of 5%. Under this arrangement the larger part of the preferred has been so exchanged, leaving in 1906 only $1,596, 600. The effect of this change was to considerably increase the fixed charges of the road but the proportion of total net income consumed by fixed charges is still reasonably low and the margin of safety sufficiently ample. The preferred may be regarded as a solid 5% stock, entitled to sell under normal conditions of money at around $125 per share.

The common stock, now on a 6% basis, has shown very high figures. Even after the stock dividend of 20%, in January, which increased the common stock by one-fifth, it sold up to $170 per share in 1905 and to $168 in 1906. From this point it declined rather steadily under the general pressure, reaching $112 early in 1907, and falling to $94 in the slump of March. This low price was accounted for partly by the general decline in securities, partly by the necessity which this road, among many others, found of selling three-year notes at a high rate of interest. It may have been due partly, also, to the feeling that the road had not been as liberal in its maintenance charges as it might have been and that the showing of surplus available for dividends was somewhat at the expense of skimped maintenance account.

The investor in Atlantic Coast has further to consider the fact that its average freight rates are high and that in the event of a general determination to reduce railroad rates, these might have to be considerably scaled. On the other hand, a majority of the common stock is owned by a holding company and this is the chief source of the revenues of that company. It may be assumed, therefore, that the 6% dividend will be maintained just as long as the earnings of the company could possibly justify it. In other words, the investor may feel that the controlling interest of the road is in "strong hands" and that his interest return would be guarded by the fact that a reduction in this dividend would be of much more consequence to the holding interests than to himself. Even supposing, therefore, that a more liberal mainte-

nance policy would have somewhat reduced the surplus available for dividends, the amount still remaining would be quite ample to maintain the 6% basis rate. He has further to consider that in time of need the company might somewhat enlarge its revenue by raising the dividend rate upon the Louisville & Nashville, an increase which would be amply justified by the great earnings of that line.

It is not quite clear on what basis the very high quotations of 1905-6 were reached, save on the theory that the Atlantic Coast Line would take over the Louisville & Nashville under lease and that therefore its revenues would be very considerably augmented. It should be remembered, however, that the Atlantic Coast has only a bare majority and probably no lease could be made effective which did not amply satisfy the minority stockholders. This, as already noted, might readily mean an 8% rate on Louisville & Nashville, and though, under the exceptionally prosperous conditions of 1906 this would have left a large surplus, this surplus might not be so heavy under less favorable conditions.

Probably from all this, the investor will conclude that Atlantic Coast is a fairly solid 6% stock, but with no such prospect as would entitle it to sell much above the general level of other 6% stocks of the same character. This is to say, that probably under the high money conditions prevailing in 1906-7 the stock would tend to sell rather towards the low figure reached in the beginning of 1907, rising to considerably higher figures were the pressure for money to be reduced and the general interest rate to decline to around 4%. Supposing such a decline as altogether probable, the stock purchased at anything like the figures of 1907 would likely show a handsome profit if held for the return to more normal conditions.

The stock of the Atlantic Coast Line Company of Connecticut is not listed on the Stock Exchange and it is very closely held. The balance sheet of that company on June 30th, 1906, showed securities and other assets of $43,666,711, the larger part of which was $24,257,000 of the common stock of the Atlantic Coast Line Railroad Company and $1,009,300 of its preferred. Against these holdings there were outstanding about $26,000,000 of stock, certificates of indebtedness and open accounts, leaving a surplus to the credit of profit and loss of $17,575,802. This surplus sufficiently reveals the strong financial position of the company.

BALTIMORE AND OHIO RAILROAD.

The Baltimore and Ohio was long one of the foremost railroads of the country, a high and steady dividend payer whose stock was prized by investors. Wrecked through rate wars and incapable management, it went down in the general collapse of 1893-7, and its rehabilitation did not begin until the introduction of the "Community of Interest" idea.

Few of the larger roads of America have shown a more rapid development in the period that has intervened. Since the road was taken from the hands of receivers in 1899, its mileage has been doubled, and its gross earnings are nearly three times as great. It follows, therefore, that the mileage earnings have increased about 50%.

The very remarkable fact about this astonishing increase in earnings is that it is not due to an increasing density of traffic on the road, but almost entirely to an increase in rates. In 1899, the bedrock year, the average freight rate received by the Baltimore and Ohio had fallen to .39c per ton-mile. In 1904 it was .58c, and in 1906, .56c—an average increase of nearly 50%. This increase is practically the same as the percentage of increase in the earnings per mile. In other words, had the rates of 1899 been in force in 1906, the gross earnings of the Baltimore and Ohio would have been eighteen million dollars less than they were, and the earnings per mile would have been practically the same in that year as when the road was in the receiver's hands. This is what "Community of Interest" has done for one American road.

By far the larger part of this increase in rates is represented by the increase on a single commodity, that of soft coal tonnage, which produces nearly one-half of the freight traffic of the road.

History.

The Baltimore and Ohio is one of the oldest of American roads, and the oldest of the larger roads continuously in existence. Its report for 1906 was its eightieth annual statement to its shareholders. The road was chartered in 1827 and its first section opened in 1830.

Its construction was directly instigated by the completion of the Erie Canal and it was assisted by loans from the City of Baltimore. It was designed as a road from tide-water to the Ohio River. The original project was conceived, so it is said, by George Washington. The road consisted of iron-plated wooden rails along which tramcars ran "at the marvellous speed of nine miles an hour." Soon after its inauguration sails were tried as a means of locomotion but speedily abandoned. The first steam drawn train dashed along at the rate of ten miles an hour, and in 1835 the Baltimore *American* predicted that "before long this unprecedented rate of speed will be raised to eighteen and even twenty miles an hour, and the journey to the Ohio will some day be performed within twenty-four hours."

The modern Baltimore and Ohio was largely the creation of John W. Garrett, who was its president from 1858 to his death in 1884. His son Robert succeeded him, and was killed soon after. In 1887 dividends on the common were passed, and from that time until the final collapse of 1896, profits from operation were swept away through the persistent recurrence of rate wars. There was a heavy increase of capital in 1891, a scrip dividend of 20% and other devices of "high finance." When the collapse came in the Spring of 1896, it was found that current expenditures had been charged to capital, net earnings largely stuffed, and Baltimore and Ohio, which had been one of the premier investment stocks of the country, sold at $9 per share.

The reorganization was consummated without foreclosure and in 1899 the road was returned to its owners. Soon after the reorganization the Baltimore and Ohio Southwestern was consolidated with the parent road, and control was gained of the Cleveland, Lorain and Wheeling; and several other minor roads were absorbed.

In 1906 the Baltimore and Ohio directly operated 4,000 miles of rails, of which nearly 1,200 miles were double-tracked; and it controlled through stock ownership about 500 miles more. Likewise through its ownership of one-half of the working control of the Reading, its influence extends over the Reading-Central New Jersey system, and through the latter its trains obtain entrance into New York.

The principal line extends from Philadelphia through Baltimore westward through Maryland, forking at Cumberland into two main branches, one extending to Pittsburgh, Lake Erie and Chicago; the other through Cincinnati to Louisville and St. Louis. Enormous sums have been expended, especially since 1900, amounting to the

practical reconstruction of the road, with heavy rails, heavy equipment, and the development of the road to the high standard of efficiency of the Pennsylvania lines.

Ownership.

In 1900 and 1901, the Pennsylvania obtained practical control of the road through the purchase of large blocks of stocks and since that time Pennsylvania influence has been dominant in the affairs of the road. On January 1st, 1906, it held $30,293,300 par value of the common stock, and $21,480,000 par value of preferred stock; through the Pennsylvania Company, $5,000,000 preferred, and $11,-044,600 common, and through the Northern Central and the Phila., Baltimore and Washington (one-half each) of $2,000,000 preferred and $1,562,000 common, or about $71,000,000 out of a total of $185,000,000 of stock.

In the fall of 1906 it was announced that the Pennsylvania had disposed of about 400,000 shares of its Baltimore and Ohio holding together with about one-half its holding in the Norfolk and Western, to Messrs. Kuhn, Loeb and Company; further, that this stock had been taken over by Harriman-Union Pacific interests, who were understood to be already large holders of stock in the road; Messrs. Harriman and Stillman had been for some time on the board of directors.

This purchase was generally accepted as indicating a purpose on the part of the Union Pacific interests to hold a trans-continental line in imitation or in competition with the Gould transcontinental.

In 1906, the board of directors was made up of four representatives of the Pennsylvania: John P. Green, James McCrea, Samuel Rea and John B. Thayer; and these with Oscar G. Murray, president, and George F. Randolph, vice-president, made the Pennsylvania interests dominant in the Board. With the sale of the Pennsylvania's holdings, Mr. Thayer retired and was succeeded by Joseph R. Foard, president of the Foard Lighterage Company of Baltimore. The other directors were: Charles Steele, representing the Morgan interests; Norman B. Ream, prominent in the Erie management, and also closely associated with Morgan interests; James Speyer, of the banking house of Speyer and Company; Edward H. Harriman, also a director in the Erie and the Delaware and Hudson; James Stillman, also a director in the New York Central, the Delaware and Lackawanna, the Union and Southern

Pacific; and Edward R. Bacon, vice-president of the subsidiary Baltimore and Ohio and Southwestern.

Mr. Jacob H. Schiff, of Kuhn, Loeb and Company had been a director up to 1906, but resigned in that year, and his place was taken by R. Brent Keyser, of Baltimore. In the same year the Baltimore and Ohio acquired by purchase 55,000 shares of stock of the Washington Branch road held by the state of Maryland, through which the state of Maryland had been entitled to two representatives on the board of directors, and these two representatives of the state were therefore retired.

For so large a road the stock of the Baltimore and Ohio is not widely held as in former days, the company reporting 7,132 shareholders in 1905, as against 44,000 for the Pennsylvania.

Affiliations.

When the Pennsylvania had also acquired practical working control of the Norfolk and Western, and become dominant, with the Vanderbilt interests, in the Chesapeake and Ohio, and when in turn the Baltimore and Ohio had gained control of the Reading, through stock ownership, this brought all of the eastern soft coal roads under practically a single ownership. To this is due the regeneration of the Baltimore and Ohio, as well as the Chesapeake and Ohio, and the Norfolk and Western. In 1899, the Baltimore and Ohio was receiving on its soft coal tonnage only .26c per ton-mile; in 1906 the average rate was .40c—an increase of more than 50%. The general increase of rates has been parallel to this, so that the average of all tonnage has been raised by about 50%.

In the case of these southerly roads, community of interest amounts practically to single ownership, with the absolute elimination of competition throughout the very extensive territory covered by the Pennsylvania, Reading and Baltimore and Ohio lines. In 1905, and 1906, this monopoly was broken through the purchase of the Western Maryland by the Goulds; by the construction of the Deep Water and Tide Water railroad by Mr. Rogers, and the situation was further complicated by the Union Pacific's purchase of Baltimore and Ohio stock.

Capitalization.

Under the reorganization and subsequent consolidations, the capital account of the Baltimore and Ohio's lines were greatly simplified, so that the balance sheet of the company presents the exact capitalization. On June 30th, 1906, this account stood as follows:

Capitalization.

Common stock	$124,580,000
Preferred stock	60,000,000
Total stock	$184,580,000
Funded debt	246,849,430
Assumed debt	11,177,416
Total capital	$442,606,846
Securities held	50,721,919
Approx. net capital	$391,884,927
Approx. net capital per mile	$97,241
Average miles operated	4030
Net earnings on net capital	7.1%
Stock on net capitalization	47%
Fixed charges on total net income	39%
Factor of Safety	61%

In the above estimate of capitalization, the new issue of $27,-750,000 of common stock has not been included. Issued in April of 1906, only a little more than $10,000,000 had been paid, and this stock has been omitted because it did not share in the earnings or in the dividends of the fiscal year of 1906.

Though the securities owned are carried on the books at considerably below their actual value, they are entered in the above table at the company's estimate.

It will be seen that the estimated net capitalization is neither high nor low. With gross earnings on the road of $19,000 per mile, its $97,241 of net capital per mile of road compares with $145,000 for the Pennsylvania, with gross earnings of $37,661 per mile. This same figure compares with $96,108 per mile for the Norfolk and Western, whose mileage earnings are considerably lower, and with $77,142 per mile for the Chesapeake and Ohio.

Comparing the net earnings of these four roads, it will be seen that their estimated net capitalization is on a very even basis. The net earnings of the Baltimore and Ohio represent 7.1% on the net capitalization; the Pennsylvania 8.1%; the Norfolk and Western, 6.4%; and the Chesapeake and Ohio 7%.

The Baltimore and Ohio collapsed in 1896, not because of any large shrinkage of earnings but from the fact that its Fixed Charges had been eating up steadily increasing proportions of its net income,

until finally default was made. In the reorganization, Fixed Charges were heavily scaled, so that at the present time the stock represents very nearly one-half of the net capitalization, while the Fixed Charges consume only about 40% of the net income, leaving a Factor of Safety for the underlying securities of about 60%.

It should be understood, however, that the Factor of Safety figured above is based upon the earnings of the road from year to year, and that the figure of 60% for 1906 was attained through average freight rates 50% higher than they were in 1899, and in a year of fabulous prosperity. Furthermore the earnings of the road are pivoted on the single industry of soft coal carriage and the high factor has therefore nothing like the same significance that it would have on a road whose traffic was more widely distributed, or whose earnings had risen less rapidly than those of the Baltimore and Ohio.

Equities Owned.

Stocks and bonds in the treasury of a par value of about $64,000,000 are carried on the company's books at a valuation of $50,721,919. Of these $18,500,000 were bonds, of which $15,433,954 were the road's own securities. The treasury likewise carries $1,098,560 par value of Baltimore and Ohio preferred and $40,662, of common. Of the securities held by far the largest item is the Reading stock which consists of $6,065,000 par value of the first preferred, $14,265,500 of the second preferred, and $10,002,500 of the common. These stocks at 1906 market prices had a market value of upwards of $33,000,000. In addition to them the road had upwards of $14,500,000 par value of other securities, including its own stock, and $1,154,000 par value of Lehigh. Both of the latter were worth much more than par.

All the stocks, including the Reading, were carried on the books at $32,149,847. This is obviously very much below their market value. Furthermore, the company received in dividends and in interest on its securities owned, $3,048,663 in 1906. This on a 4% basis would give these securities a valuation of about $75,000,000, or $25,000,000 in excess of their book value.

Reference to the analysis of the Reading's affairs will show that this company in 1906 was comfortably earning 6% or 7% on its common stock over and above liberal maintenance charges, and large appropriations for improvements and depreciations. In other words, it might have as legitimately declared dividends to these amounts as the Pennsylvania or the Baltimore and Ohio itself. All of the Baltimore and Ohio's equity in the Reading is represented by

its $10,000,000 of common stock, which is one-seventh of the total. Estimating that the surplus earnings of the Reading, after reasonable improvements and preferred dividends, left a surplus for the common stock of from $5,000,000 to $7,000,000, the Baltimore and Ohio's equity in the balance over and above the 4% dividend declared, amounted in 1906 to something like $700,000 to $1,000,000.

The purchase of these stocks was made in 1901. At that time the average price of the first preferred was $75, of the second preferred $50, and of the common $40 per share. If the purchase price were somewhat near these average figures for 1901, these Reading securities should have cost the Baltimore and Ohio from $15,000,000 to $16,000,000, so that their market valuation in 1906 of upwards of $33,000,000 would represent a profit to the road of from $15,000,000 to $17,000,000, or more than one hundred per cent. on the investment.

Increase of Capitalization.

From the table that follows it will be seen that the capitalization of the road has increased rather heavily since the consolidation of the system in 1900, the larger part of this increase having been common stock.

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1900	$45,000,000	$59,357,167	$198,435,529	$302,792,696	$42,117,405
1906	124,580,000	60,000,000	258,026,846	442,606,846	77,392,056

Increase of 6 years: Total capital, 46%; gross earnings, 83%.

It will be seen that the funded debt has increased only about 30%; the preferred has remained stationary; while the common has risen from $45,000,000 to $124,580,000 in 1906. With the new issues the amount of common stock becomes $152,330,000 for the year of 1906-7.

It is to be noted that the gross earnings have increased nearly twice as fast as the increase in capitalization, but as already explained this increase of earnings is due largely to the raise in the average freight rates.

The larger part of the road's expenditures has been for double tracking, new equipment, relaying track with heavier rails, and the general building up of the road to a "Pennsylvania standard." It yet remains to be seen whether this will prove as highly profitable, in net profits, as had been anticipated.

Character of Traffic.

To a greater extent than most of the large eastern roads, though not to the same extent as the Norfolk and Western for example, the Baltimore and Ohio is a freight road, and like almost all of the large eastern lines except the New York Central, the larger part of its freight earnings is due to the carriage of coal.

In 1906 products of the farm made up only 7% of its tonnage, manufactures only 17%, and products of mines, 64%.

Unlike most of the other large coal roads, except its two southerly competitors, the Norfolk and Western and the Chesapeake and Ohio, the Baltimore and Ohio's coal carriage was almost exclusively bituminous coal. This made up in 1906 40% of its gross tonnage, while the coal tonnage of the Reading, for example, is divided almost equally between anthracite and bituminous. Baltimore and Ohio has next to no anthracite.

Broadly speaking, the prosperity of the Baltimore and Ohio therefore is pivoted on the soft coal industry and the maintenance of soft coal rates. This is undoubtedly an element of weakness, but it would be so in a far greater degree but for a remarkable fact. In the fifty years preceding 1865, the anthracite coal production of the United States exceeded the bituminous. In the year named the production of the two varieties was about equal. In the intervening forty years, anthracite coal production has risen from about 10,000,000 tons to 69,000,000 while bituminous has risen from the same figure to 255,000,000. The one has increased less than seven times; the other has increased twenty-five times. The simple fact appears to be that the labor cost against the power value of anthracite coal is notably higher than that of bituminous coal; otherwise there could have been no such extraordinary difference in their development. It is true that the anthracite fields are very limited, while the bituminous coal fields are spread all over the country from the Atlantic to the Pacific, and it goes without saying that the cost of carriage from the mine mouth to the point of consumption averaging for the bituminous coal a very much shorter haul, has played and will continue to play a very large role in the relative use of the two coals. The rate of increase in the anthracite coal production grows less and less, decade by decade, while that of bituminous coal tends to rise rather than fall.

Far-sighted investors then will balance two facts: The first that even on a pre-eminently anthracite line like the Reading, bituminous coal carriage is increasing much more rapidly than the anthracite,

and the second that competition in the bituminous coal industry is much more widely distributed and therefore in times of stress much more subject to competitive reduction in price. So far as the Baltimore and Ohio is concerned, then, its chief source of revenue is an industry over which it is far more difficult for any single road or set of roads to gain control, and as the fields of the West, Colorado, Wyoming, Washington, and other states develop, this competition will become keener rather than less.

On the other hand, it is very noteworthy that in the very remarkable year of 1906, the general tonnage of the road increased 17% while the coal tonnage increased only 10%. Up to 1906 it is equally remarkable that there had been in the previous five years practically no increase in the traffic density of the road. This will be seen by reference to the table of traffic density under maintenance.

Stability of Earnings.

Reference has already been made to the fact that between 1896 and 1905 the mileage of the Baltimore and Ohio directly operated had doubled, while its gross earnings trebled. In the meantime the increase in gross earnings per mile was very slow. In 1901, earnings had reached only nearly $15,000 per mile, and they did not show any notable increase until the astonishing jump in 1906, when they reached $19,200 per mile. All this is set forth in the following table:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6	2,089	$23,944,781	$11,461
1896–7	2,031	25,582,122	12,644
1897–8	2,006	27,722,788	13,819
1898–9	2,023	28,404,922	14,159
1899–0	3,181	42,117,405	13,236
1900–1	3,216	47,114,430	14,649
1901–2	3,233	51,178,061	15,829
1902–3	3,935	63,449,633	16,124
1903–4	3,987	65,071,081	16,320
1904–5	4,026	67,689,997	16,813
1905–6	4,030	77,392,056	19,204

Reference to the column of traffic density in the table that follows will show that likewise until 1906, there had been no notable increase in the ton-miles per mile of road. To restate what has already been clearly indicated, the fine showing which the road has made since its reorganization has been due almost

entirely to the increase in rates, and these in turn have been very largely due to increase in coal rates.

The paramount question which faces the investor in Baltimore and Ohio is whether present rates can be maintained, and especially coal rates. The increase in coal rates of nearly 50% has been in the face of a very slight increase of freight rates all over the country at large, and a very heavy decline in freight rates on western roads. In 1899, the bedrock year, the average freight rate for the whole of the United States was .73c per ton per mile; in 1904 it was .78c; an increase of a little over 6%. The total freight bill for the whole of the United States in 1906 amounted to somewhere around a billion and a half of dollars; a general increase of 50% in rates would have added to the freight bill of the country upwards of $700,000,000 per year. In times of prosperity such an increase as the Baltimore and Ohio has enjoyed may pass without protest, but it clearly seems possible that if a time of stress should come, this amazing prosperity of the railroads would not fail to arouse agitation for lower rates. Obviously the wisest thing which the roads can do is to put their properties in the best possible condition to meet such a change, and this is what the Baltimore and Ohio has done.

Maintenance.

It will be seen from the following that with an increase in traffic density of only about 20%, the Baltimore and Ohio has increased its total maintenance charges per mile an even 50%. The items stand as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	2,220,614	$1,779	$1,898	$3,677
1901-2	2,318,443	1,939	2,077	4,016
1902-3	2,181,518	1,569	2,101	3,670
1903-4	2,096,739	1,703	2,602	4,305
1904-5	2,218,966	1,950	2,717	4,667
1905-6	2,659,949	2,315	3,105	5,420
Average	2,282,704	$1,876	$2,416	$4,292

Miles of extra main track, 1,182.

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Pennsylvania.	3,862,125	$3,648	$4,983	$8,531
C. & Ohio.....	2,057,510	1,387	1,995	3,382
Norfolk & W.	2,190,314	1,563	1,903	3,466
Erie.............	2,764,827	1,861	3,216	5,077

Undoubtedly the charges on the Baltimore and Ohio, especially in 1905-6, were heavy. Yet when they are compared, for example, with those of the Pennsylvania, it will be noted that the Pennsylvania's average maintenance charges for a period of six years have been more than twice those of the Baltimore and Ohio on a traffic density only 75% greater. Compared with the Erie, maintenances have been about even; compared with the Chesapeake and Ohio and with the Norfolk and Western, Baltimore and Ohio's charges have been considerably higher; that is to say from $500 to $600 per mile more, traffic density considered.

Yet another noteworthy fact is that with a much lower percentage of double track, both the Norfolk and Western and the Chesapeake and Ohio have been able to handle very nearly the same amount of traffic per mile. The enormous outlay which the road has made for double-tracking, heavier rails and the like, has undoubtedly put it in a better position for future traffic, but the traffic density of the Norfolk and Western, with only 185 miles of double track, was actually higher than that of the Baltimore and Ohio in 1906. Its rate of increase was more rapid than the latter, which had nearly 1,200 miles of double track. There is here the eternally recurrent problem as to where a double track becomes profitable.

Meanwhile it seems to be clear that the maintenance of the Baltimore and Ohio has been ample, and that it is in an admirable position for a large increase of business, should this business come.

Improvements.

In addition to enormous capital expenditures, the Baltimore and Ohio has systematically set aside since its reorganization very large sums for the same purpose from its surplus earnings. These for a series of years have been as follows:

1899–0	$2,540,230	
1900–1	2,740,932	
1901–2	2,765,194	
1902–3	4,073,000	
1903–4	2,408,650	
1904–5	2,979,454	
	1,500,000	(Depreciation of Equipment)
1905–6	1,500,000	" " "
	4,066,038	
Total	$24,573,498	

This amount is undoubtedly large, amounting to an average expenditure of over $6,000 for every mile of road. It is of course nothing like the $58,447,000 set aside by the Pennsylvania, but the Pennsylvania's earnings and profits were enormously greater. It is nothing like the $25,271,000 similarly appropriated by the Lackawanna on less than a thousand miles of road, but it compares very favorably with the $10,027,000 set aside by the Reading; the $10,794,000 set aside by the Erie; and the $5,713,000 set aside by the Lehigh Valley. It is quite certain that the Baltimore and Ohio has been abreast of the foremost roads which have turned back a large part of their earnings into improvements.

Surplus Earnings.

In analysing the following table of surplus shown, it will be seen that a very large part of the 83% increase in surplus earnings, has been absorbed by the increase in capitalization; that is to say, to 1906, the surplus shown averaged around 11%. This may be stated in quite another way much more favorable to the road. This is that while the Baltimore and Ohio has been carrying out improvements on a huge scale, and increasing its capitalization by nearly 50%, it has still been able to increase its surplus at practically the same rate, and show about the same amount from year to year earned on the common stock.

The increase in the year 1906 is especially noteworthy, but a reference to the increase of earnings for the same period will show that this high percentage has not been attained through mere bookkeeping, but in the face of a heavy increase of maintenance charges. It is to be noted that the surplus here shown for 1906 over previous years is slightly in excess of the net income shown by the reports, which have deducted from a half a million to a million dollars annually of "Miscellaneous Improvements" which were included among Fixed Charges. These amounts have been added to the net income shown in the reports in each instance, and therefore slightly increase the nominal percentage shown as available for improvements and common stock dividend.

Year	Surplus	Dividend paid on Preferred	Per Cent. Earned on Common	Dividend paid on Common	Average Price
1900-1	$ 7,637,613	4	11.6	4	99
1901-2	10,324,883	4	10.4	4	105
1902-3	14,905,133	4	10.	4	85
1903-4	12,766,010	4	8.3	4	85
1904-5	14,153,248	4	11.	4½	110
1905-6	19,130,337	4	15.4	5½	112

Averaging the percentages shown, it will be seen that the surplus nominally available for the common stock dividend has amounted to 11% per annum for the six years. This is slightly better, for example, than the Pennsylvania and the increase of the dividend on the common stock to a six per cent basis in 1906 obviously had ample justification.

Dividend Record.

In the old Garrett days Baltimore and Ohio dividends were considered almost as solid as those of the New York Central or Pennsylvania. For six consecutive years from 1881 the road paid 10%, but in the demoralization that followed the death of the elder Garrett, earnings steadily dwindled until they disappeared entirely. It will be seen that since the reorganization, dividends on the common have been steadily increased, in 1906 the stock being placed on a 6% basis. The record for thirty years is as follows:

Year	Common	Preferred
1877	8	
1878	8 (stock)	
1879	4 and 4% stock	
1880	9	
1881-5	10	
1886	8	
1887	4	
1888-90	——	
1891	20 stock	
1892	3¾	
1893	5	
1894	4½	
1895-99	Reorganization	
1900	2	4
1901-4	4	4
1905	4½	4
1906	5½	4

The Balance Sheet.

Deducting from the current assets the amounts advanced to other companies, as is customary, and excluding the item of materials on hand, the balance sheet at the close of the fiscal year of 1906

showed current assets	$23,899,696
and current liabilities	22,675,257
leaving a working balance of	$1,224,439

In addition to the above assets, there was due from the Baltimore and Ohio Equipment Company, $13,900,408, and from other, probably subsidiary companies, $10,391,230.

Of the current assets the item of cash represented $8,890,830.

The balance to the credit of Profit and Loss was $15,823,643, as against $9,135,287 for the previous year. In other words, after all deductions for interest, dividends, etc., the road carried to this account a credit of $6,688,355 of undistributed net surplus.

Investment Value.

It is certainly a very remarkable showing that the Baltimore and Ohio has made since its reorganization. In the third year after it was taken from the receivers' hands it was showing more than 11% net surplus for its common stock, and that showing has been averaged in the five succeeding years. With this showing, with the consolidation of the southern coal roads under practically one ownership, and with the powerful backing of the Pennsylvania, and the fine management which characterizes all of the company's undertakings, the B. & O. stock in general should have shown more or less corresponding quotations.

The preferred stock is limited to 4% non-cumulative dividends. These have been paid since 1900, the year after the reorganization, and since this time the stock has ranged between $83 per share and par. In 1906, under the prevailing high rates of interest, its range was between $92 and $99 per share. With a margin of safety for the funded securities of about 60%, such as that shown in 1906, and with the amount of preferred stock less than half the common, the preferred is entitled to be regarded as a solid stock whose security is likely to increase rather than diminish. Its price, therefore, will be determined by the average savings bank rate for money, with the further possibility that it might be desired for the purposes of control.

In 1900, Baltimore and Ohio common, on a 2% basis, sold as high as $90 per share, and on the doubling of the dividend in the

following year, sold up to $118 per share in the boom of 1902. In the slump of 1903-4, it sold down as low as $72 per share, rising again to $117 in 1905, and with the placing of the stock on a 6% basis in 1906, it touched $125. In the same year the Pennsylvania on a 6% basis and the New York Central on a 5% basis, were habitually selling twenty to twenty-five points higher, and the Reading on a 4% basis even more. Yet with ample maintenance charges the surplus shown for B. & O. common was very considerably in excess of that shown for the Pennsylvania. It was more than twice that shown for the New York Central and more than the percentage shown for the Reading. It is not very easy to explain the anomaly and there are undoubtedly many who purchased the stock in the belief that this obvious discrepancy would be reduced. The fact can be due only to the caution engendered by the sources of the Baltimore and Ohio's unquestioned prosperity. The mileage earnings of other roads have increased very much more rapidly than have those of the B. and O. and on a far broader and firmer basis of traffic. The Reading, the Pennsylvania and all of the eastern roads have likewise been benefited to a considerable degree by an increase in freight rates, but in nothing like the same degree as the B. and O. These other roads could go back to the rates of 1899 and not be seriously crippled. The B. and O. could not. It could not reduce its gross earnings of 1906 by $18,000,000, and at the same time scale its operating charges sufficiently to leave any considerable profit to the shareholders. It is not probable, for example, that its maintenance charges for 1906 could be scaled a full $1,500 per mile without impairing the condition of the road, and this on its 4,000 miles of track would amount to only $6,000,000. It is evident that investors have not lost sight of the fact that B. and O. prosperity is conditioned in and has been brought about by an increase of freight rates. If these rates can be maintained there seems no reason why its stock should not steadily pay a six per cent. dividend, even if some setback in business should come. It seems to be fairly evident that experienced railroad managers like Mr. Harriman and his partners would not buy a huge block of the stock of the road unless they regarded it as full of possibilities, at least to them, and the stock well worth its market price. In justice to its shareholders the Pennsylvania could not have sold this stock at much below the market price, and if the interests which have made so magnificent a success of the Union Pacific did not regard this valuation as excessive, it is not very reasonable that the investor should have greater fears.

On a six per cent. basis, with money at 4%, a solid 6% stock is entitled to sell around $150 per share; but by reason of the narrow basis of its prosperity, it is probable that the Baltimore and Ohio will tend to sell rather under other 6% stocks actually showing less favorable surpluses than the B. and O. That is to say, the stock presents a greater risk. The investor will ask a higher yield of interest than on stocks which he regards as on a more solid foundation. On the other hand, should the Baltimore and Ohio come wholly under Harriman interests, and become the eastern outlet of the Harriman-Union-Southern Pacific system, its traffic and its earnings might acquire a much higher degree of solidity with excellent guarantees as to management and results.

In the very moderate decline of 1906, with every prospect of an increase of dividend, the stock sold at $105 per share; in the heavier recession of March, 1907, it sold at $90. Were the investor able to secure it at anything like these figures, he should reflect that the surplus shown might at a pinch be cut nearly in halves without threatening his dividend, and that with the return of more favorable conditions the stock might readily sell at from $120 to $140 per share, and even higher in a market boom. There are not lacking casuists to maintain that a previous record of bad management offers the highest sort of possibilities for an investor, and if this be true it would be difficult to cite a more promising speculative stock than Baltimore & Ohio.

BOSTON AND MAINE RAILROAD.

The Boston and Maine, which in 1907 was practically absorbed by the New Haven, was the most important railway system in New England outside the New Haven road. In 1906 it operated directly 2,287 miles, against 2,062 for the New Haven, and through its stock ownership in the Maine Central controlled 816 miles more, carrying the total to well over three thousand miles. The Maine Central is operated separately, though under practically the same management.

The present Boston and Maine represents the consolidation in 1890 of the Boston and Maine, the Eastern, and the Portsmouth, Great Falls and Conway Railroads, but prior to this the road had acquired control, by lease, of the old Boston and Lowell, the Concord and Montreal and several smaller lines. In 1900 the road began to operate, under a 99 years lease, the Fitchburg and leased lines, aggregating 457 miles of road, and in 1901 the company purchased the capital stock of the Central Massachusetts R. R.

By the consolidation with the New Haven, practically the whole transportation system of New England, outside of the New York Central's Boston & Albany line, came under a single management. The New Haven's relations with the New York Central are harmonious, and New England is not troubled with rate wars.

The Boston and Maine lies mainly in Massachusetts and New Hampshire, about one-half of it being in the latter state; 511 miles or nearly 25% of the line is double tracked. The road operates through a territory that is at about a standstill as far as development goes; but through the growth of the cities its traffic rises steadily.

Ownership.

The Boston and Maine is one of the most widely held roads in the Union, reporting in 1905 7,402 shareholders. This is a little over 40 shares per shareholder, representing an average investment of about $6,500.

The directorate of 1906 included Lucius Tuttle, president; Richard Olney, ex-Secretary of State; Henry M. Whitney, a very large New England capitalist; and Alexander Cochrane, Boston;

Samuel C. Lawrence, Medford; Joseph H. White, Brookline, Mass.; Lewis Cass Ledyard, Henry F. Dimock, and Charles M. Pratt, (of the Standard Oil Company), New York; Alvah W. Sulloway, Franklin, N. H.; Walter Hunnewell, Wellesley, Mass.; and William Whiting, Holyoke, Mass.

These are practically all New England capitalists, indicating the local ownership of the road.

Capitalization.

The nominal capitalization of the Boston and Maine is low, amounting in 1906 to only $59,000,000, or an average of about $26,000 per operated mile. In point of fact the system is largely made up of leased lines and its rental payments on these amounted in 1906 to $5,075,000, almost four times the interest on its nominal funded debt. When these rentals are capitalized at 4%, following the custom of this book, the capital account, for 1906, was as follows:

Common stock	$24,638,070
Preferred stock	3,149,800
Total stock	$27,787,870
Bonded debt	31,305,543
Nominal capital	$59,093,413
Rentals cap. at 4%	126,862,500
Approximate gross capitalization	$185,955,913
Securities held	10,535,094
Approx. net capitalization	$175,420,819
Est. net capital per mile	$77,660
Average miles operated	2,287
Net earnings on net capitalization	5.6%
Stock on net capitalization	16%
Fixed Charges on Total Net Income	78%
Factor of Safety	22%

The Boston and Maine itemizes the stocks and bonds of its leased lines, and these amount to $60,000,000 of stocks and $46,000,000 of bonds. When these two items have been added to the nominal capitalization of the Boston and Maine proper, the actual

amount rises to over $165,000,000, which sum compares with the $185,000,000 here estimated as the gross capitalization of the road.

The securities owned are apparently carried at practically the par value of the stocks and bonds, including several items, in particular the 24,000 shares of the Maine Central stock, which are worth far in excess of this valuation. The total, however, is small, and does not greatly affect the estimate here made. This estimate shows a net capitalization of $77,660 per mile operated. This compares with $103,741 for the New Haven, which latter, however, shows gross earnings more than half again as large as the Boston and Maine.

Compared with the Net Earnings, the Boston and Maine's capitalization is rather high, its figure of 5.6% of net earnings on net capitalization comparing with 8.2% for the New Haven; and 8.4% for the subsidiary Maine Central.

The percentage of Fixed Charges on Total Net Income is very high, the Fixed Charges consuming 78%. Over 60% of this item is represented by rentals paid. The leases mainly take the form of fixed dividends on the stocks of the leased roads and a guarantee of their securities. Were the Boston and Maine other than a solid, even-running road, its Factor of Safety for its own securities, and on its guarantees of leased roads would be very low. As a matter of fact, the road has been able steadily to meet its obligations without embarrassment, and it is obvious that its securities as well as its stock are highly prized by New England investors.

Equities Owned.

The chief item of treasury holding is 54,547 shares of the common stock of the Fitchburg road. The guarantee on this stock is only one per cent.

The holdings of par value of $2,516,000 of the Maine Central represents on the average price of this stock in recent years, nearly double this sum.

The only other important holding was $1,293,559 par value of the Boston and Maine's own stock, worth above $160 per share.

The various stocks and bonds held by the Boston and Maine yield a revenue of only $255,000 per year, which on a 4% basis would not greatly raise the valuation at which they are carried on the company's books.

Increase of Capitalization.

In the five years from 1901 the increase of capitalization has been very slight, amounting at the close of the fiscal year of 1906 to only a little over $4,000,000. The total increase in the amount of the dividends, disbursements and Fixed Charges has only been $454,224. Within the same period its gross earnings have increased $8,460,000 and practically all of this increase of income has been turned back into the road. During 1906 the company refunded over $10,000,000 of its obligations, resulting in a saving of $267,000 per annum.

During 1906 the company offered for sale $4,203,000 par value of new stock, together with the amount of stock in its treasury. At the date of the annual report for 1906, $3,627,000 par value of these shares had been sold.

The balance is required by law to be disposed of by public auction. The price fixed by the Railway Commissioners of Massachusetts, Maine and New Hampshire was $165 per share. The increase of dividend charge through this new stock will be more than offset by the saving in Fixed Charges referred to.

The premiums received through a series of years upon all the stocks of the Boston and Maine outstanding, including the 1906 issue, has produced for its treasury a total of $39,289,000, an excess over its nominal capitalization of nearly $14,000,000, the average price of the stock being $152 per share. This is another evidence of the fact that the capitalization of a railroad is more or less a matter of bookkeeping and if the matter of premiums had been included in the estimate of capitalization above, the gross amount shown would have been increased by about the $14,000,000 noted.

Under the laws of Massachusetts, Maine and New Hampshire, the price at which new stock is issued is fixed by the railway commissions of these states and is supposed to represent a near estimate of the actual value of the stock, so that the value of the "rights" on this new stock was very small.

Character of Traffic.

The passenger business of the Boston and Maine amounts to $15,000,000, or about 37% of the gross earnings from operation. The freight traffic is widely distributed, the business of the road being very general. The main item is coal, which, however, forms only about 25% of the total tonnage, and the next largest item, lumber, represents only about 12%.

Stability of Earnings.

Since the addition of the Fitchburg R. R. by lease, the mileage of the system has increased but slightly, while the gross earnings have increased more than 35%. Over a period of ten years the average earnings per mile have increased from $11,383 to $17,147, an increase of 55%. This is shown in detail in the following table:

Year	Miles Operated	Gross Earnings	Earnings per Mile
1896-7	1,718	$19,556,687	$11,383
1897-8	1,715	19,742,945	11,506
1898-9	1,715	19,890,607	11,598
1899-0	1,752	22,148,602	12,641
1900-1	2,257	30,406,907	13,472
1901-2	2,265	31,606,322	13,954
1902-3	2,280	33,537,491	14,709
1903-4	2,285	34,705,230	15,188
1904-5	2,288	36,017,074	15,741
1905-6	2.287	39,214,202	17,147

It will be seen that this increase is very steady and is marked by no setback from one year to another. It is this evenness of earnings which gives to the Boston and Maine its solidity.

Maintenance.

It will be seen from the following table that the traffic density of the road has increased about 30%, and the total expenditures for maintenance per mile 35%. This is nothing like the usual showing for American roads within this period and it is evident that the maintenance charges have been very carefully adjusted with an eye to maintaining the road's 7% dividends. In comparison with the New Haven, with about an equal freight traffic density and about the same percentage of second track, the Boston and Maine's charges are low, but it should be remembered that the average earnings of the New Haven road, per mile, are more than 50% higher than the Boston and Maine.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	686,006	$1,513	$1,438	$2,951
1901-2	715,391	1,760	1,477	3,237
1902-3	757,030	1,609	1,394	3,003
1903-4	756,421	1,676	1,595	3,271
1904-5	810,371	1,967	1,838	3,805
1905-6	879,992	2,353	1,460	3,813
Average	767,535	$1,813	$1,533	$3,346

Miles of extra main track, 521.

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
New Haven....	787,816	$2,786	$2,408	$5,194
N. Y. C.........	2,096,289	2,741	3,169	5,910

There has been a lively complaint that the road has not followed a policy of improvement and betterment in keeping with the rest of the roads of the country, and in 1906 the character of the Boston and Maine service in New Hampshire was the dominant political question in that state. The policy of the road is undoubtedly extremely conservative, and the need of an improved service has been recognized by the road in the sale of additional stock for providing funds for betterments.

Improvements.

The report states that the following amounts have been included in the operating expenses, appropriated under separate headings for new equipment:

1901-2	$563,239
1902-3	170,370
1903-4	350,988
1904-5	807,782
1905-6	1,026,427
Total	$2,918,806

The total expenditures for new equipment for 1906 amounted to $2,455,000, the balance having been charged to capital account. Much heavier appropriations than this were needed in 1907.

Surplus Earnings.

In the six years from 1901-06 the surplus shown has not greatly increased, it being evident that the operating expenses were adjusted to meet the regular dividends. The following table shows the conditions for the six years under view:

Year	Surplus	Dividendson Preferred Stock	Per Cent. Earned on Common	Dividends Paid on Common	Av'age price (Calendar Year)
1900-1	$1,690,413	6	6.4	7	194
1901-2	1,786,726	6	6.7	7	199
1902-3	1,793,908	6	6.6	7	178
1903-4	1,849,456	6	6.9	7	166
1904-5	1,883,572	6	6.8	7	178
1905-6	2,051,919	6	7.9	7	175

The discrepancy between the percentage on common stock earned and the dividend paid is explained by the fact that the company holds 11,282 of its own shares, upon which no dividends were paid. This left a small surplus each year.

Dividend Record.

In twenty-six years, the full 6% has been paid on the preferred stock, and the following on the common:

	%
1881-5	8
1886	9½
1887	10
1888-9	9
1890	9½
1891	9
1892-3	8
1894-99	6
1900-6	7

It will be seen that the stock reached its maximum earning power in 1887 when 10% was paid. It then dropped down to 6%, increasing to 7% in 1900. Since that time at the same rate to date.

The Balance Sheet.

Excluding materials and supplies on hand, the balance sheet for June 30th, 1906, showed: Current cash assets, $9,571,535; current liabilities, $8,931,260; leaving a working balance of $640,275.

In addition to the above, there were sundry assets of $1,654,139 and accrued liabilities, etc., of $5,516,033. The item of cash was $2,964,216, and the credit to Profit and Loss was $2,591,590.

The most considerable item of the current liabilities was notes payable of $3,450,000. The report states that this indebtedness was for new equipment expenditures in anticipation of the sale of new common stock for this purpose. At the date of the report, September 6th, 1906, $1,850,000 of this indebtedness was discharged, the remainder to be disposed of as the obligations given therefor mature.

Investment Value.

It will be seen from the table of average prices, that the quotations have considerably declined from the levels of 1901 to 1903. Within the six years under view the stock reached its highest quotation in April, 1902, when it stood at $209 per share. It declined from this figure in the slump of 1903-4 to $158, and has not since

been above $185. This has been in the face of a steady increase of earnings, of maintenance and of surplus. This may have been due in part to the political agitation against the road, but the chief cause undoubtedly was the demand for a higher return for the investment. At $200 per share the stock yielded only 3½% on its investment. With savings bank money at 4% and no large prospects for an increase of dividends, it was natural that the stock should go to a lower level. The fact that it could sell at an average price of $175 under the prevailing high money rates of 1906 is evidence that there has been no loss of confidence in the stock. At this price Boston and Maine simply represents a highly conservative and favorite investment. The management is known to the people of New England and the property is at their very doors.

There seems little indication now that the dividend rate will be increased within the near future. The maintenance charges may have seemed to the management adequate, but if the service of the road has failed to satisfy its patrons, it would be very dubious policy to increase the dividends in the face of this dissatisfaction. If high rates for money should continue, with a larger yield on standard stocks, and a larger chance for gain, it seems probable that the prevailing price of Boston and Maine would tend to decline rather than rise. The laws of the states through which it runs being as they are, the return to the shareholders is limited to the pure dividend; they receive no handsome plums in the way of "rights" and a 40% rise in the price of living since 1896 has affected people with fixed incomes very deeply. The very natural demand has been for a higher interest return. Holders of the stock who let go of it above $175 would probably be able to buy it back at a lower figure or to find more attractive investments elsewhere.

The amount of the preferred stock is small. It is limited to 6% and its value is fixed simply by the prevailing price of money. On a 4% basis it is worth about $150 per share at the outside.

BUFFALO, ROCHESTER AND PITTSBURGH RAILWAY.

The Buffalo, Rochester and Pittsburgh is one of the few small railways operating in trunk line territory. It is essentially a "coaler," and its line leads from the bituminous coal regions eastward of Pittsburg to Buffalo on Lake Erie, and to Rochester on Lake Ontario. It is managed in a solid business way, and with the improvement of conditions in the bituminous coal industry, its has become exceedingly prosperous.

History.

The road represents the consolidation, in 1887, of the Buffalo, Rochester and Pittsburgh and the Pittsburgh and State Line companies. In 1898 the Alleghany and Western was leased, and this and minor leases bring the total operated length of road up to 568 miles.

The road is located to form a natural highway from Pittsburgh and the coalfields to the lakes, and its chief business is low grade freight transportation. It obtains entrance into Buffalo and Pittsburgh by traffic arrangements with other roads.

Ownership.

The road is controlled by the Iselin interests and others connected with the Gallatin National Bank of New York. The directorate includes Adrian Iselin, Jr., identified with coal interests in the region; C. O'Donnel Iselin, William E. Iselin, and Ernest Iselin; Samuel Woolverton, president of the Gallatin National Bank; Henry G. Barbey, Walter G. Oakman, also a director of the Long Island, Louisville and Nashville and other roads; W. Emlen Roosevelt, also a director in the Nickel Plate and the Mobile and Ohio; John L. Riker, a New York capitalist; Oscar Grisch, Arthur G. Yates, of Rochester, president; John H. Hocart, secretary and assistant treasurer, New York.

The stock does not appear to be very widely held.

As already noted, the company is highly independent, and is not especially identified with any of the larger lines.

Capitalization.

The capital account on June 30th, 1906, stood as follows:

Common stock	$10,500,000
Preferred stock	6,000,000
Total	$16,500,000
Funded debt (net)	15,461,000
Nominal capital	$31,961,000
Rentals cap. at 4%	12,325,000
Approximate gross capitalization	$44,286,000
Securities held	1,028,855
Approx. net cap	$43,257,145
Approx. net capitalization per mile	$76,157
Miles operated	568
Net earnings on net capital	7.6%
Stock on net capital	38%
Fixed charges on total net income	53%
Factor of safety	47%

The capitalization of $76,000 per mile compares with $131,000 per mile for the Pittsburgh and Lake Erie, its most direct competitor, and with $94,000 per mile for the Nickel Plate.

Its capitalization compared with its net earnings is moderate, its 7.6% comparing with 4.2% for the Nickel Plate, and 11.8% for the Pittsburgh and Lake Erie.

The Fixed Charges consume only about one-half of the total net income, leaving a wide margin of safety for the securities of the company.

Increase of Capitalization.

As will be seen from the following, the increase of capitalization for the last six years has been small, while the gross earnings have increased by 56%.

Year	Common Stock	Preferred Stock 6%	Funded Debt	Total	Securities Held	Gross
1899-00	$6,000,000	$6,000,000	$12,462,000	$24,462,000		$4,992,147
1905-06	10,500,000	6,000,000	15,461,000 (net)	31,961,000	1,028,855	7,829,451

Net increase over six years: Nominal capital, 30%; Gross earnings, 56%.

Equities Owned.

The only considerable holding of the company was the stock of the Rochester and Pittsburgh Coal and Iron Company, carried on the books of the company at $1,003,000. In 1906 the latter showed nominal profits of $216,000, of which $120,000 was used to pay principal of bonds, and the balance placed to the credit of profit and loss. During the year the coal company expended $147,000 in improvements, all of which was charged from profit and loss account. The operations of the company suffered heavily through the strikes in the spring of 1906. The actual income to the railway from this source was:

1902-3	$600,000
1903-4	320,000
1904-5	120,000
1905-6	96,000

In consequence of the enactment of the new railway law at the close of 1906, the stock of the Coal & Iron Company was sold to the Mahoning Investment Company, in return for $4,125,000, par value,—practically the entire capital stock of the latter. This stock was in turn distributed to the shareholders of the preferred and the common equally, each shareholder receiving 25% of the par value of his stock in stock of the new investment company.

Character of Traffic.

Bituminous coal makes up on the average from 65 to 70% of the total tonnage of the company, other single items being small. The revenue received is relatively low, the average rate per ton per mile for 1906 being .50c. This is a considerable increase from 1899, when the rate had fallen to .41 cent. On the other hand, the 1906 rate is a decrease from that of 1901 by .04 cent.

It will be seen that the company has profited very materially from the "gentleman's agreement" which in 1898 was formed to put a stop to the disastrous cutting of rates.

Stability of Earnings.

From the following table it will be seen that the gross earnings have more than doubled in ten years and that earnings per mile have increased about 50%.

Year	Miles Operated	Gross Earnings	Earnings per Mile
1896-7	339	$3,311,766	$ 9,767
1897-8	336	3,683,590	10,963
1898-9	338	3,788,456	11,208
1899-0	405	4,992,147	12,326
1900-1	472	5,803,692	12,353
1901-2	472	6,292,584	13,375
1902-3	472	7,404,503	15,462
1903-4	499	7,496,521	15,090
1904-5	538	8,138,274	15,169
1905-6	568	7,829,451	13,784

There was a considerable decline in the coal tonnage in the spring quarter of 1906, which with the slight reduction in the average rate, brought about a small decrease in the gross earnings for the year.

By reason of its traffic, the stability of the road's earnings is absolutely dependent upon the conditions of the coal industry.

Maintenance.

For the year of 1906 the company spent $1,200 per mile on its way and structures, which is very closely the average figure for the last six years. It also struck very closely the average figure for maintenance of equipment. Together these amounted to $3,100 per mile. On the equipment side this would allow about $2,000 per locomotive, $800 per passenger car, and $40 per freight car. This on a traffic density of 2,200,000 ton-miles per mile of road is probably adequate maintenance.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	1,855,184	$1,209	$1,472	$2,681
1901-2	2,150,492	1,132	1,769	2,901
1902-3	2,429,596	1,128	2,094	3,222
1903-4	2,257,264	1,181	2,274	3,455
1904-5	2,483,386	1,256	2,443	3,699
1905-6	2,185,450	1,202	1,935	3,137
Average,	2,226,895	$1,184	$1,998	$3,182

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Erie................	2,368,817	$1,861	$3,216	$5,077
Pitts. & L. Erie	6,989,301	14,888	10,530	25,418
N.Y.C. & St. L.	2,528,054	2,042	1,966	4,008

Second Track: 168 miles, equalling 30%.

Improvements.

Through a series of years, the road has set aside annually sums for betterment as follows:

1899-0	$446,977
1900-1	530,134
1901-2	583,562
1902-3	950,749
1903-4	497,389
1904-5	413,516
1905-6	394,141

The B., R. & P. shows of course, nothing like the enormous expenditures which have been made by the Pittsburgh and Lake Erie, but on the other hand it has nothing like the traffic upon the latter.

Surplus Earnings.

For the last five years the surplus earnings of the company have averaged between fourteen and fifteen hundred thousand dollars per year, showing the highest figure in the year of 1902-3. It should be understood that the items of surplus shown are the amounts shown before the special improvement fund has been charged off.

Year	Surplus	Dividends Paid on Preferred	% Earned on Common Stock	Dividends Paid on Common	Average Price
1901-2	$1,273,266	6	15.2	4	100
1902-3	1,781,595	6	17.1	4	129
1903-4	1,513,264	6	12.8	5½	140
1904-5	1,387,271	6	9.8	6	139
1905-6	1,510,644	6	10.9	6	152

Dividend Record.

It was eight years after the reorganization of the company before dividends were paid even on the preferred, and dividends

on the common were not paid until 1901. The items for the various years were as follows:

Year.	Preferred %.	Common %.
1892	5	
1893	1¼	
1897	1	
1898	2	
1899	2	
1900	6	
1901-2	6	4
1903	6	5½
1904-6	6	6

The Balance Sheet.

The balance sheet for 1906 showed:

Current assets of	$1,974,522
Current liabilities	1,135,507
Leaving a balance of	$839,015

Of the current assets, $432,000 was in cash.

The amount to the credit of Profit and Loss at the end of the year was $2,325,754.

Investment Value.

The dividend on the preferred has been paid for the last six years, and the surplus in this period was amply sufficient to ensure these payments, which consume only $360,000. A like dividend is paid on the common stock. After 6% has been paid on the common, the two stocks share alike.

The preferred sold as low as $140 per share in 1904, recovering to $164 in 1905. After charging about the usual amount for special improvements, the surplus was ample to pay the 6% dividend on both stocks.

Yet even under these conditions a quotation of $165 for the preferred shares appears rather high. A solid 6% preferred stock is hardly entitled to sell over $150 per share without speculative prospects. The Buffalo and Rochester distinctly has such prospects, but on the other hand, with its earnings pivoted, so to speak, upon a single industry, it is not a stock without risks.

The 6% payments on the preferred have not amounted to more than 25% of the average surplus shown in the past five

years, and with the reservations noted above, may be regarded as a stable dividend. On the other hand, the road has shown earnings of not much over 6% on the common, after allowing for a reasonable amount of new construction. Unless therefore the earnings very considerably increase, it is scarcely likely that the dividend will be augmented in the immediate future.

Six per cent. dividends have now been paid on the common for three years, though it is to be recalled that any dividend on the common dates back only to 1901. The quotations on the common were run up to $150 per share at the beginning of 1903, this price being a considerable rise from the price of the high year of 1902. In the slump of 1904, it sold off to $118 per share, recovering to $160 in the same year.

It has not touched the latter figure since, and in the general decline of March, 1907, it sold as low as $80. But this price was of course made after the distribution of the stock derived from the transfer of the coal properties. The direct net income from the coal company to the railway company was, however, in 1905 and 1906, very small.

The stock is not an active one, and is rather closely held. At somewhere in the neighborhood of $125 per share it offers slightly less than a 5% investment, with fair prospects for additional dividends if the prosperity of the bituminous coal industry continues and no strikes intervene. If the price could fall to $80 with business conditions as good as those of 1907, it might readily do so again, so that somewhere between this price and $125 it would probably appear to the investor an inviting purchase.

CANADIAN NORTHERN RAILWAY.

The Canadian Northern is a new line, designed to parallel the Canadian Pacific throughout the greater part of its length and of which about 2,500 miles had been completed at the close of the fiscal year of 1906. Its construction was obviously stimulated by the great financial success of the Canadian Pacific. For the present the main line extends from Port Arthur on Lake Superior through Winnipeg, to Edmonton in the Canadian northwest. The road leases the Northern Pacific & Manitoba Railway, which is leased by the Northern Pacific to the provincial government of Manitoba and sublet by the latter for 999 years. The Manitoba government has the option to purchase the property for $7,000,000. The road has also a line from Toronto northward, including in all about 350 miles, which will eventually be extended to the north of Lake Superior, to join the main line from Port Arthur. Likewise the Canadian Northern acquired control of the Great Northern of Canada, the Chateaugay & Northern Railway and the Quebec, New Brunswick & Nova Scotia Railway. These three roads were consolidated in 1906 under the name of the Canadian Northern & Quebec Railway Company and afford the road entrance into the cities of Ottawa, Montreal and Quebec. The road will be extended westward to the base of the Rocky Mountains, the design being to tap the rich wheat fields of the Canadian northwest, and a line is also projected from Eloimami at the northwest corner of Manitoba to Fort Churchill on Hudson Bay, suggesting the possibility of a short wheat route from the latter point to Europe.

The enterprise is being financed by Wm. Mackenzie, Senator Geo. A. Cox, and the Canadian Bank of Commerce. Wm. Mackenzie is president and the Board of Directors in 1906 included D. D. Mann, Vice-President; Z. A. Lash and Frederic Nicholls, all of Toronto, Canada; and R. M. Horne-Payne, of London.

As of June 30th, 1906, the company had outstanding the following securities:

Capital Stock	$30,750,000.00
Four Per Cent. Perpetual Consolidated Debenture Stock	10,901,333.32
Bonds	24,585,136.70
Car Trust Obligations	4,180,915.61
Total Capital	$70,417,385.63

The company had completed at the close of the year 2,482 miles. Deducting the 351 miles leased from the provincial government this would leave a little over 2,100 miles, and if this were all that were covered by the capitalization tabled above, this would represent an issue of securities to the amount of around $33,000 per mile. Beyond the $3,630,000 of miscellaneous bonds carried on the books at a cost of $1,946,666, the company's balance sheet did not show further saleable assets.

The earnings are as yet small, comparison of mileage and earnings for four years showing as follows:

Year	Average Miles Operated	Gross Earnings	Per Mile
1902–3	1,236	$2,449,579	$1,981
1903–4	1,349	3,242,703	2,402
1904–5	1,586	4,190,212	2,641
1905–6	2,064	5,903,755	2,860

The traffic density was correspondingly low, but even when due consideration has been given to this, it is difficult to understand the maintenance charges. These for three years compare as follows:

Year	Traffic Density	Maintenance		Total
		Way	Equipment	
1903–4	218,309	$353	$219	$572
1904–5	243,275	351	259	610
1905–6	259,349	391	284	675

It is difficult to believe that even a new road can be kept up at an average charge of $350 per mile or equipment maintained at an average charge of $250 per mile, even though net earnings be below $3,000 per mile.

Even with these very light maintenance charges, operating expenses in 1906 consumed 66% of the gross earnings. Fixed charges, not including taxes, for the year consumed 69% of the net earnings, leaving a surplus for the year of $719,574. This was equivalent to 2.3% on the outstanding capital stock.

The company has a land grant of about two million and a half acres, of which a million and one half are available for sale. The larger part of the outstanding bonds are guaranteed either by the provincial government of Manitoba or by the government of Canada.

The enterprise is not yet sufficiently advanced to consider its securities from a solid investment point of view. The last few years for the Canadian northwest have been years of unparalleled prosperity, with a tremendous inrush of immigration. In the past these huge "booms" have invariably been followed by a drastic reaction. It is obvious that such a reaction would severely influence the securities of this company if it were to take place, as the larger part of its revenues are drawn from these newer fields. From this it follows that the securities of the company are as yet entirely in the speculative stage and ought not to be otherwise considered by the investor.

CANADIAN PACIFIC RAILWAY.

The Canadian Pacific shares with the Russian Siberian Railroad the distinction of being the only true transcontinental line, in the full sense of the word, in the world. It is the only American railway operating over more than half the continent. Its lines extend from Halifax and St. John on the Atlantic, and from Quebec on the Gulf of the St. Lawrence, to Vancouver on the Pacific. They reach Toronto and Detroit; through the ownership of the "Soo," they reach Minneapolis and St. Paul and extend through Minnesota and North Dakota; through the Duluth and South Shore they reach Duluth and the rich iron district of northern Michigan. A net work of lines covering Manitoba, and others extending westward, make it the chief forwarding agency in the richest wheatfields of the continent.

In addition to its railways the Canadian Pacific operates a fleet of sixty vessels, running from Halifax and Quebec to Liverpool, from Vancouver to Honolulu, China and Japan, and crossing the Great Lakes as well. Besides these properties the road possesses farm land of an estimated value of from sixty to a hundred million dollars.

A large part of the road was built from the subsidy and funds received from the lavish land grants of the Canadian government; its capitalization is still low, and its financial condition is excellent. It stands second only to the Pennsylvania in the number of its shareholders.

History.

The Canadian Pacific was chartered in 1881 and its main line opened throughout six years later. The subsidy of the Dominion government amounted to $25,000,000, and "habitable land" from which the road has already derived twice this sum. Originally a single track of iron from Montreal to the Pacific, by purchase and new construction it has steadily added to its line until in 1906 it included 8,777 miles in its returns; it operated separately 438 miles more, and had 923 miles under construction.

This gives a total of 10,138 miles; and if we add the mileage of the Minneapolis, St. Paul and Saulte Ste. Marie (2,153 miles) and the Duluth and South Shore (593 miles), the total amounts to 12,833 miles.

Ownership.

The line was built by a group of Canadian capitalists, of whom Donald Alexander Smith (now Lord Strathcona), Sir William C. Van Horne, Richard B. Angus, and Sir George A. Drummond were the leading spirits, and it is still under their active control.

The directorate of 1906 included Sir William C. Van Horne, chairman, Lord Strathcona, Richard B. Angus, Edmund B. Osler, M. P., Sir Sandford Fleming, Wilmot B. Matthews, Charles R. Hosmer, Sir George Drummond, Senator Robert Mackay, R. G. Reid, Senator L. G. Forget, and President Sir Thomas Shaughnessy, all of Canada; Thomas Skinner of London, and Clarence H. Mackay, President of the Postal Telegraph Cable Company, New York.

The executive committee included Sir William Van Horne, Lord Strathcona, Mr. Angus, Mr. Osler and President Shaughnessy.

Aside from the land grant funds, the road was built largely with British money and the bulk of its securities are held by English investors. It is stated that the company has over 30,000 shareholders, which compares with 44,000 for the Pennsylvania, the largest number in any road in the United States.

Capitalization.

On June 30, 1906, the capital account stood as follows:

Common stock	$101,400,000
Preferred stock	42,719,999
Total	$144,119,999
Bonds outstanding	41,738,086
Debenture stock	101,519,411
Nominal capital	$287,377,496
Rentals capit. at 4%	16,250,000

Approx. gross capital......	$303,627,496
Securities held..................	52,492,909
Approximate net capital........	$251,134,587

Approx. net capitalization per mile.	$28,613
Miles operated..................	8,777
Net earnings on net capital......	9.4%
Stock on net capital............	57%
Fixed Charges on total net income	33%
Factor of Safety................	67%

Inasmuch as a considerable part of the road lies in eastern Canada, its capitalization of $28,613 per mile is exceptionally low. This figure compares with $59,512 for the Northern Pacific; $42,362 for the Great Northern, and with $96,400 for the Grand Trunk Railway, its chief competitors. Moreover, the net earnings on the estimated net capitalization show a high percentage, its 9.4% comparing with 9.6% for the Northern Pacific, and 10.1% for the Great Northern.

Equities Owned.

On June 30th, 1906, the company held other securities of a par value of $97,000,000, of which the following were the chief items:

Duluth, South Shore & Atlantic,	consolidated mortgage.	$15,107,000
do.	income certificates....	3,000,000
do.	preferred stock.......	5,100,000
do.	common stock........	6,100,000
Minneapolis, St. Paul & Sault Ste Marie	preferred stock	3,533,400
do.	common stock........	7,066,600
do.	consolidated mtge bonds	3,933,000
Manitoba and Northwestern,	common	5,612,000
Atlantic and Northwestern,	guaranteed stock......	3,240,000
Columbia and Western, first mortgage bonds..........		5,691,000

The total of these securities is carried on the books at a cost of $52,472,909.

The earnings of the "Soo" line are high, the stock netting 7% on the preferred, 4% on the common, and the undistributed surplus amounting to about as much more.

The Duluth and South Shore is operated at a loss, and the company's other equities, save in its lands, are of no considerable value, as compared with the magnitude of the company.

Land Grants.

The Canadian Pacific and its subsidiary lines received a total of 30,000,000 acres, or if the 2,500,000 acres which the company is to receive through the Columbia and Western Railroad be included, over 33,000,000 acres. From this it has sold off 10,500,000 acres, and turned back to the Dominion government nearly seven million acres, deriving from this source a total of over fifty million dollars to date.

Of this, $36,000,000 has been charged to construction and equipment, and deducted from the cost of the railway property, leaving a credit balance included in the company's assets of $14,500,000. The year of 1905-6 was one of extraordinary prosperity for the Canadian northwest, and was reflected in heavily increased land sales by the road, the proceeds for the year amounting to $6,900,000.

During the year the Canadian Pacific paid the Dominion government $6,500,000 on its land grant bonds, leaving then only $1,-500,000 of these bonds outstanding. These bonds lie against some 13,400,000 acres of company lands which are otherwise clear. The average amount realized from the sale of a million acres during the year was a little under $6 per acre. Prospective town sites included, the remaining lands can scarcely be worth very much less, certainly not if the deferred payments on land and town site sales outstanding, amounting to $16,383,000, be included.

If the 2,500,000 acres yet to be received be included, the total reaches nearly to 16,000,000 acres, which, at no more than three dollars an acre, amounts to $48,000,00; and this, with the $16,000,000 outstanding, would make up total land assets of $64,000,000.

The Canadian Pacific's land holdings even at a low valuation, can scarcely be worth less than this, and should the Canadian northwest meet with no such drastic years of adversity as came in the nineties, they would eventually be worth much more, perhaps much in excess of $100,000,000.

Were this amount, or half of it, deducted from the capitalization, it would bring the average per mile to an amount far below that of any other great trunk line.

Style of Capitalization.

The makeup of the capital account differs very considerably from the customary style of American roads. With the completion of payments on the new issues, the common stock will amount to $121,680,000. This, with the preference stock outstanding, makes

up a total of $164,400,000 of stock, or over 60% of the estimated net capitalization, leaving only 40% for the funded debt. This is a strong position for any company to be in.

The position of the Canadian Pacific is even more favorable than this. The amount of the first mortgage bonds is relatively small, only $40,000,000 out of an estimated capitalization of more than a quarter of a billion. The balance of the funded debt is in the form of 4% debenture stock. This amounted on June 30th, 1906, to $101,000,000, against which securities were held to book value of $52,000,000. This debenture stock is perpetual, and the interest is cumulative, and in the default of the interest the stockholders may sue and obtain judgment against the company; but the stock carries no mortgage, and is not like a mortgage, foreclosable.

The Fixed Charges for 1905-6, including rentals and the interest on the debentures, consumed only 33% of the total net income shown, leaving a Factor of Safety of 67%. But, as indicated above, this factor is in reality stronger than it looks.

The present amount of 4% preferred stock consumes only 7% more of the net income, so that the Factor of Safety on the preferred is 60%, making it a very strong preferred stock.

Increase of Capitalization.

Despite enormous outlays, mainly for new construction, the increase in the capitalization in the last five years has been much less than it might have been anticipated, and very much less than the corresponding increase in gross earnings. The following are the items:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1900-1	$65,000,000	$31,171,000	$125,438,161	$221,609,161	$30,855,203
1905-6	101,400,000	42,719,999	143,257,497	287,377,496	61,669,758

Net increase over five years: Nominal capital, 30%. Gross earnings, 100%.

The increase for the year of 1901 amounted to $34,000,000 of stock and debentures, this being offset by a reduction of $13,500,000 in the funded debt, the net increase for the year amounting to $21,500,000.

The increase for the year 1906-7 includes $20,280,000 of common stock, almost all sold before June 30th, 1906, and on which more than 25% had been paid in; and in January, 1907, $7,500,000 preferred stock was sold in London. The issue of the preferred

stock is limited to one-half the amount of the common stock outstanding.

In 1906 the Minneapolis, St. Paul and Sault Ste. Marie Railway issued an additional $5,820,000 consolidated mortgage bonds for the construction of 291 additional miles of road, the interest on which is guaranteed by the Canadian Pacific.

Character of Traffic.

The Canadian Pacific does not reduce its items of freight traffic to tons. The main features for 1906 were as follows:

Grain, 2,000,000 bushels,
Lumber, 1,804,000,000 feet,
Flour, 5,994,000 barrels,
Livestock 1,428,000 heads,
Manufactured articles, 3,818,000 tons,
Other articles, 4,098,000 tons.

In a broad sort of way the Canadian Pacific is mainly a grain carrier, and its prosperity is absolutely bound up with that of the wheat fields of the Canadian northwest. This is its principal source of revenue.

Freight traffic receipts made up two-thirds of the gross; passenger a little over 25%.

The earnings of the steamship lines are not separately tabulated, but these items together with the revenue from sleeping cars, express elevators, telegraph and miscellaneous, made up 10% of the gross.

Stability of Traffic.

While the mileage of the Canadian Pacific has increased one-third in ten years, the gross earnings have been multiplied three times. The earnings per mile have been more than doubled, as the table reveals:

Year	Miles Operated	Gross Earnings	Per Mile
1892	6015	$21,409,352	$3541
1894	6360	18,752,167	2901
1896	6476	20,681,597	3191
1897	6567	24,049,535	3662
1898	6681	26,138,977	3912
1899	7000	29,230,038	4175
1900–1	7563	30,855,203	4079
1901–2	7588	37,503,053	4942
1902–3	7748	43,957,373	5673
1903–4	8133	46,469,132	5714
1904–5	8568	50,481,882	5892
1905–6	8777	61,669,758	7026

It is to be noted that the figure for 1905-6 shows an extraordinary increase, which was due in part to the very open winter and in part to the enormous immigration into the Northwest Territory. This exceptional advance can hardly be sustained through any period of years. It is not improbable that with the decline of the "boom," this figure will show a decrease.

Maintenance.

It has often been noted that the great surplus recently shown by the Canadian Pacific has been made up on a basis of maintenance charges, which are considerably lower than that of most American roads. President Shaughnessy stated in his report for 1906 that "it is the policy to replace at the cost of working expenses, all rolling stock that becomes obsolete or destroyed, car for car, locomotive for locomotive, without reference to the increased capacity and cost of more modern standard equipment. As a consequence, every car and locomotive shown in the inventory of rolling stock is either in service, or is provided for in the equipment replacement fund."

The charges for way and equipment have not been itemized according to the American custom, save from 1904; the averages for the three preceding years have been compiled from Moody's Manual. It will be seen that, on this showing, while Traffic Density has doubled in the six years, the average maintenance charges were considerably higher in the first three years than in the latter three. The items compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	315,170	$554	$979	$1,533
1901-2	428,034	742	1,219	1,961
1902-3	487,284	867	1,481	2,348
1903-4	451,311	907	722	1,629
1904-5	472,432	995	772	1,767
1905-6	597,306	1,037	839	1,876
Average	458,589	$850	$1,002	$1,852

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Great Northern	650,321	$960	$594	$1,554
No. Pacific.......	729,102	1,300	791	2,091
Union Pacific...	739,206	1,173	1,049	2,222
Atchison..........	577,005	1,123	1,113	2,226
So. Pacific.......	594,898	1,446	1,246	2,692

It will be seen that the average of the Canadian Pacific's charges compares favorably with its competitors, the Great Northern and the Northern Pacific; though both the Hill lines are much below their southerly rivals in this regard.

The comparison of the various roads for the single year of 1906, stands as follows:

Roads	Traffic Density	Way	Equipment	Total
Southern Pacific.....	678,554	$1,775	$1,554	$3,329
Atchison...............	693,879	1,479	1,271	2,750
Union Pacific.........	990,815	1,519	1,222	2,741
Northern Pacific.....	971,334	1,387	1,098	2,485
Great Northern......	835,342	1,092	816	1,908
Canadian Pacific.....	597,306	1,037	839	1,876

The traffic density of the Canadian Pacific is the lowest on the list. These items compared there is, for example, between the Canadian Pacific and the Atchison, a difference of at least $500 per mile of maintenance charges. An Atchison standard on the Canadian Pacific's 9,000 miles of road would have cut its surplus down by $4,500,000, or more than 25%.

Moreover, while the Canadian Pacific does not differ very greatly from the practice of the Great Northern, under the effective management of James J. Hill, it should be remembered that most American roads charge off large sums annually from earnings for improvements.

Improvements.

During the year of 1906 expenditures for improvements and additions on the Canadian Pacific amounted to $7,783,000 on the company's own lines, and $757,580 on leased lines. But of this account it appears that only $2,535,000 came from the surplus income. The balance apparently was supplied by the sale of securities.

No statement of any such appropriation from surplus appears in the report for 1905-6. It may be inferred, therefore, that no large sums have been especially set aside after the fashion of American railroads. The company follows the more English custom of making improvements from capital additions.

Surplus Earnings.

In six years the surplus available for dividends has risen from five and a half to sixteen and a half million dollars. The dividends

on the preferred stock are limited to 4%. Thus it was that the percentage of surplus shown on common stock has more than doubled in the same period, despite a considerable increase of capital. If, however, the percentages shown are to be compared for the purpose of investment with the corresponding percentages for American roads, this nominal surplus should be considerably decreased. An addition of $500 per mile to the maintenance charges would hardly more than bring the Canadian Pacific up to the level of other Pacific roads, outside of the Great Northern, and this amount would reduce the surplus shown by over $4,000,000. This, however, would still leave a balance of between ten and eleven per cent. on the common stock for the year, thus leaving an ample margin for the payment of the 7% dividend. Comparisons for six years are as follows:

Year	Surplus	Dividends on Preferred Stock	Per cent. Earned on Com. Stock	Dividends on Common Stock	Average Price
1900-1	$5,586,965	4%	6.6%	5%	92
1901-2	7,559,914	4	9.7	5	116
1902-3	10,071,461	4	10.3	5½	125
1903-4	8,318,277	4	8.2	6	121
1904-5	9,105,686	4	7.5	6	121
1905-6	16,592,215	4	14.8	6	166

Dividend Record.

The Canadian Pacific has an enviable record among Pacific roads for the steadiness of its dividends. It has paid the 4% on the preferred stock without interruption from the beginning in 1894. It began the payment of dividends on the common in the second year of its existence as an incorporated road, and has continued them with the omission of but a single year since. In 1906 the stock was placed on a 7% basis.

Year.	Dividends.	Year.	Dividends.
1883	2½%	1898	4½
1884	5	1899	4
1885	4	1900	5½
1886-9	3	1901-2	5
1890-3	5	1903	5½
1894	5	1904-6	6
1895	..	1906-7	7
1896-7	2½		

The Balance Sheet.

As of June 30th, 1906, the balance sheet, excluding materials and supplies on hand, showed:

Current Assets	$23,087,544
Current Liabilities	11,323,924
Leaving a working balance of	$11,763,620

In addition to the above, there were deferred payments on land and town site sales amounting to $16,382,823, which, while not a quick asset, might have been so included. This amount would have brought the company's working capital up to $28,146,443.

The item of cash was $17,752,415, and the balance to credit of surplus income, corresponding to profit and loss account of other roads, was at the close of the year $25,741,414, from which the dividends for the year—$3,896,400—were to be deducted.

Investment Value.

The Canadian Pacific has hitherto enjoyed a practical monopoly of all of western Canada. This monopoly is being abruptly broken by the simultaneous invasion of the Great Northern and the Canadian Northern, and the projected line of the Grand Trunk Pacific. The latter will parallel the Canadian Pacific, running to the north, practically from end to end. The Canadian Northern has already reached into the wheat fields of the Northwest, and the president of the Great Northern has announced plans for a new line from Winnipeg to the Pacific, with numerous branch lines connecting with the main system. In brief, these rich wheat fields are witnessing a greater amount of railroad construction than has been seen on this continent for more than fifteen years. It is estimated at 5,000 miles.

At the present time the Canadian Pacific's average freight rate per ton mile is relatively high, though not as compared with other Pacific roads. Its average rate of .74 cents for 1906 was rather lower even than the Great Northern's, which is the lowest among the trans-continentals of the United States. This is an average of 25% higher than the general freight rates of eastern North America. The freight rates on the eastern portion of the Canadian Pacific are considerably below the average, which means that the rates in the Far West are above it. It is scarcely probable that with vigorous competition these rates can be maintained. For a year or two, with the continuance of the present extraordinary prosperity, the dim-

inution may be slight, but when the inevitable reaction comes, the reduction will probably be considerable.

The meaning of this is very simply that while the Canadian Pacific's traffic density and gross tonnage may increase heavily, gross earnings will increase in lesser ratio, and net earnings still less.

The road is in excellent condition to meet this competition; its estimated capitalization is low, the percentage of net earnings on this estimated capitalization is high, the company has a large surplus, and the increasing income from its land sales places it in a position of great solidity. It has few weak points. It is established within a rich territory, and its steamship lines at either end of the road enable it to command through traffic.

Nevertheless this competition must be met, and this question must very deeply affect the investment value of its stock. The years that follow wild booms are proverbially drastic years for railways, and it would be exceptional conditions which would enable the road to show such a relative surplus, through the next five or six years, that it showed in 1905-6. In a word, the company's securities represent rather speculative issues and the investor who takes the risk which is involved is entitled to a higher return upon his money than would be the case if its territory were one where traffic conditions were relatively fixed.

The surplus shown for 1905-6 was altogether exceptional, representing as it did, a year of abnormal increase in gross earnings (more than 20%), together with an abnormal winter, conducive to very low operating charges.

For the year before, very far from an unprosperous year, the percentage shown on the common stock was a little more than half that shown in 1906. Interest will be paid in 1906-7 on twenty millions more of common stock, so that $1,400,000 must be added to dividend charges, and the increase of one per cent. in the dividend adds nearly as much more, or $2,600,000 in all.

This can be paid without a strain under present conditions. Should the Northwest meet with no heavy setback, it is not improbable that the stock can be maintained on a 7% basis. At this rate a quotation of 150 to 175 would scarcely be regarded as excessive, especially in view of the fact that the company's policy towards its stockholders has been extremely liberal in the matter of rights, and that the profits from this source have considerably increased the actual dividends paid for several years.

But beyond its immediate earnings, the company has an undivided equity, practically clear of any burdens, equal in value to at least the half of the common stock. This is not a "quick asset." It is improbable that the lands could be sold outright now for such a sum as this, nor could they be leased like the Great Northern's ore lands. But, after the small amount of Land Grant bonds has been paid off, as it will be this year, land sales will become a legitimate source of annual revenue. Supposing the land sales through the next ten years average 600,000 acres annually at an average of $6 an acre, this would add $3,600,000 to the company's income, representing about 2½% on the common stock. The New York Central's equities in its subsidiary roads are very much larger than this, and in fixing the price of the stock these equities may be taken to represent the equivalent of a one per cent. annual dividend on the stock.

On a similar basis of estimate, the Canadian Pacific, common, may be looked upon as a seven per cent. stock, with rather large speculative possibilities. If the company's policy regarding rights be continued, the stock should yield to its possessor from eight to ten per cent. per annum on the par value, with the possibility that a portion of the land equity may be distributed in the form of a stock dividend. In view, however, of possibilities of keen competition and the burden of added dividends it would involve, such a stock dividend would be regarded in conservative circles as of dubious policy. Moreover, it should be remembered that Canadian Pacific stock is speculative in more senses than one and that a succession of bad harvests might very seriously cripple the road. The company is as susceptible in this regard as any of its transcontinental rivals.

In 1906 Canadian Pacific sold up to 202. This was considerably in advance of the price of 145 shown in the prosperous year of 1902, and was a rise from a low level of 109 at the beginning of 1904. On a 7% basis, at 175, the Canadian Pacific common is a 4% stock, with the possibility of an increase in dividends and likewise additional income from rights. At around this figure the stock would be an attractive purchase to speculative investors. At much beyond this figure, it is a pure speculation, based upon the possibility of a stock distribution. If such a distribution were in prospect, the stock might readily sell higher than it has, but cautious investors who are not gambling in possibilities, would probably be able to repurchase their holdings eventually, did they sell them, at considerably below the high levels of 1906. It is not improbable that the high figure reached at the close of 1906 may represent the high point for some time to come. In March, 1907, the stock sold down to $155.

CENTRAL OF GEORGIA RAILWAY.

The Central of Georgia operates a network of railroads extending westward from Savannah to Chattanooga, to Birmingham, to Montgomery, etc., and owns a line of ocean steamships. It is not directly a part of the Southern Railway system, but its stock is supposed to be held by Southern interests, and its association with the latter is close.

The Central Railroad, which was the nucleus of this system, is one of the oldest railways in the U. S., having been begun in 1835, and completed in 1843. It was merged with the Macon and Western, which was begun in 1833. It had built up by amalgamation and otherwise a highly prosperous company, paying heavy dividends, when in 1888 the Richmond Terminal-Jay Gould interests obtained control of the road, and it was leased to a subsidiary of the Richmond Terminal system. Immediately there was the usual expansion of debt, under one pretext and another, and in 1892 receivers were appointed. A long and costly litigation ensued, and in 1895 the old Central Railroad and Banking Company of Georgia was succeeded by the present organization, which also included the Savannah and Atlantic, the Macon and Northern, the Savannah and Western, the Montgomery and Eufaula, and the Lowell and Gerard Railways. Several smaller lines have been added since. It leases the Augusta and Savannah, the Southwestern Railway, and the Chattanooga and Gulf, and operates a total of 1,878 miles of road.

The directorate of the road includes: Charles Steele, of J. P. Morgan and Company; James A. Blair, of Blair and Company, New York, chairman of the Seaboard Air Line; George G. Haven, of New York, a member of the executive committee of the Atchison, also a director in the Morton Trust Company, the Mutual Life Insurance Company of New York, etc.; John F. Hanson, Macon Ga., president; Alexander R. Lawton, Savannah, Ga., vice-president; W. A. Winburn, Savannah, Ga., second vice-president; W. C. Bradley, Columbus, Ga.; J. W. English,

Atlanta; Uriah B. Harrold, Americus, Ga.; Joseph Hull, Savannah; Samuel R. Jaques, Macon; C. B. McCormack, Birmingham, Ala.; George J. Mills, Savannah; J. G. Oglesby, Atlanta.

Capitalization.

On June 30th, 1906, the capital account of the road stood as follows:

Common stock	$5,000,000
Funded debt	35,033,000
1st Income bonds	4,000,000
2nd " "	7,000,000
3rd " "	4,000,000
Equipment Trusts	2,429,764
Total capital	$57,462,764
Rentals capitalized at 4%	8,804,025
Approx. gross capitalization	$66,266,789
Securities held	6,600,585
Approx. net capitalization	$59,666,204

Approx. net capital per mile	$31,771
Average miles operated	1,878
Net earnings on net capital	5.8%
Stock and Incomes on net cap	35%
Fixed Charges on total net income	57%
Factor of Safety	43%

Rentals paid, less the rentals received, amounted to $352,161 in 1906, which capitalized on the usual basis of 4%, gives the figure noted above. Securities held, including those pledged under various mortgages, amount to $6,600,585, but the company's income from its investments in 1906 was only $150,252, which is less than 2½% on the book value of the properties. A considerable part of the securities, however, was the $2,000,000 of the capital stock of the Ocean Steamship Company which, in 1906, paid no dividends.

The approximate net capitalization per mile is low, comparing with $49,223 per mile for the Southern Railway, $47,453 for the Seaboard Air Line, and $39,684 for the Louisville and Nashville.

In consequence of its comparatively low capitalization, the net earnings in 1906 showed 5.8% on the net capitalization, as against

4.2% for the Southern Railway, 3.7% for the Seaboard, and 8.9% for the Louisville and Nashville.

Of the net capitalization, $15,000,000 is in the form of income bonds whose charges are non-cumulative, and on which interest is paid only when earned. These income bonds are a lien in the order of their priority, on the Savannah and Western, the Columbus and Rome, and on the Savannah and Atlantic railways; also a third lien on the main line, and a second lien on all securities and equities acquired by the Central of Georgia. Aside from this security they are a kind of preferred stock and combining these with the small amount of capital stock, the amount of securities on which dividends are optional represents 35% of the net capitalization.

In 1906 the Fixed Charges consumed 57% of the total net income, which, however, did not include any receipts from the Ocean Steamship Company. This left a nominal factor of safety of about 43%.

Equities Owned.

Of the securities owned, the largest single item was the $2,000,000 par value of the stock of the Ocean Steamship Company, of Savannah. The earnings of this company are not reported.

The road also owns $1,500,000 par value of the Western Railway of Alabama stock, and $1,589,000 of the income bonds of the Charleston and Western Carolina Railway.

Increase of Capitalization.

The additions to the capital of the road within six years from 1900 have been very slight, the amount of common stock and income bonds remaining fixed, and the funded debt having increased by about 25%. The total increase of the nominal capital was 12%, as against an increase in gross earnings of 87%. This is a handsome showing.

Character of Traffic.

In 1906 farm products contributed 20% of the gross tonnage of the road, one-quarter of this being cotton; bituminous coal contributed 14%, and lumber 23%, the balance being widely distributed.

Passenger earnings were comparatively high, contributing 25% of the gross.

Stability of Earnings.

The increase of the traffic of the road within ten years has been very striking. From the first full year of the reorganized company, the increase of mileage and earnings have been as follows:

Earnings.

Year	Miles Operated	Gross Earnings	Per Mile
1896-7	1,491	$5,280,696	$3,540
1897-8	1,523	5,507,070	3,614
1898-9	1,523	5,767,345	3,785
1899-0	1,539	6,086,263	3,954
1900-1	1,678	6,920,715	4,124
1901-2	1,845	7,750,691	4,201
1902-3	1,845	9,164,471	4,968
1903-4	1,865	9,396,931	5,039
1904-5	1,878	10,135,055	5,397
1905-6	1,878	11,396,123	6,068

It will be seen that from the first year the mileage earnings have increased by more than half. This advance was very steady and subject to no setbacks throughout the period.

Maintenance.

For a period of six years the traffic density and maintenance charges show as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	260,468	$740	$495	$1,235
1901-2	255,548	780	554	1,334
1902-3	313,041	1,007	767	1,774
1903-4	300,097	978	675	1,653
1904-5	316,979	856	929	1,785
1905-6	373,339	982	911	1,893
Average	303,245	$890	$722	$1,612

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Southern.........	435,987	$860	$964	$1,824
Seaboard.........	311,366	620	611	1,221
Atlantic Coast..	259,769	709	556	1,265
Louis. & Wash.	929,594	1,490	1,537	3,027

It will be seen that the average traffic density is one-third less than that of the Southern Railway, but the average maintenance charges per mile have been only $212 less than the Southern, while on a smaller traffic density (but higher mileage earnings), than the Seaboard, its maintenance charges have averaged nearly $400 per mile more.

The appropriations apparently have been very liberal, and certainly seem adequate. These amounts include, however, the amounts appropriated from income to improvements.

Surplus Earnings.

On the basis of this very steady increase in business the surplus has risen from $200,000 in 1901 to $1,250,000 in 1906. The increase for the latter year was especially notable, amounting to a clear jump of 50%, while in turn that of 1905 was more than double the surplus of 1904. That is to say the earnings for 1905 and 1906 were exceptional.

Year	Surplus	Amount paid on 1st Income Bonds	Amount paid on 2nd Income Bonds	% Earned on 2nd Income Bonds	Av. Price of 2nd Income Bonds
1900-1	$201,352	5	....	.019	28
1901-2	122,940	3	....	.042	38
1902-3	203,508	5	....	.05	31
1903-4	338,467	5	2	1.97	51
1904-5	854,517	5	5	9.3	77
1905-6	1,250,671	5	5	15.	86

Dividend Record.

No dividends have ever been paid on the stock. The following rates of interest have been paid on the income bonds since the organization of the new company:

Year	1st Income	2nd Income	3rd Income	Common
1896	1½	....	....	....
1897	2¼	....	....	....
1898	2	....	....	....
1899	2	....	....	....
1900	3¼	....	....	....
1901	5	....	....	....
1902	3	....	....	....
1903	5	....	....	....
1904	5	2	....	....
1905	5	5	5	....
1906	5	5	5	....

The Balance Sheet.

As of June 30th, 1906, the balance sheet showed:

Current assets of.................. $2,500,605
Current liabilities of.............. 1,152,801

In addition to the latter there were interest and rentals, etc., accrued of $558,725, making a total of $1,711,526 liabilities, and leaving a working balance of $789,079.

The item of cash was $1,216,489, and the balance to the credit of Profit and Loss at the end of the year was $647,866.

Investment Value.

The stock of the company is very closely held and seldom dealt in. The principal interest of the public is in the bonds and in the $15,000,000 incomes.

The full 5% to which all the incomes are entitled was earned and paid in the years 1905 and 1906. The full dividends on the $4,000,000 of first preference incomes were paid for four years to 1906, and in that time the bonds ranged in price from $61 in 1903 to $101 in 1905, touching a low point of $84 in 1906. The full dividend was paid on the second preference bonds in 1905 and 1906, and in these two years the price ranged from $57 to $91 per share. The interest on the third preference incomes was not paid previous to 1905, when the full 5% was declared. It will be seen from the table of surplus earnings that in 1906 the amount, after paying the full 5% on all these income bonds, was $500,000, or more than 50% over the total amount required for the interest charges.

This left about 10% as nominally earned on the $5,000,000 of common stock. It is evident that the road is in competent hands, that it is being well maintained, and that its business is increasing rapidly. Its association with the Southern Railway assures it comparative freedom from destructive competition, and at the same time the award of all the business which the Southern can turn to it. There seems no reason therefore, unless a very severe setback should come, why the road should not earn the full charges on its income bonds and something over. Georgia, it is true, is still more or less a one-crop state, but its lumber interests have been advancing rapidly, and the lumber traffic furnishes one-fourth of the gross tonnage of the Central. Likewise the report for 1906 notes that "over two million fruit trees were coming into bearing during the year, and in 1906 likewise 194 new industries, with a capital of six and a half million dollars, and employing seven thousand hands were established along the line of the company." In other words, it is apparent that in 1906 Georgia was enjoying the high prosperity of

the country in general, and while a comparative failure of the cotton crop might bring a sharp drop in the Central's securities, there seems no reason now to suppose that the road should suffer another such entanglement as came to it in 1888.

CENTRAL RAILROAD OF NEW JERSEY.

The Jersey Central, as it is familiarly known, is in reality simply the eastern division and the New York terminal of the Reading system. The majority of its capital stock is owned by the Reading, its directing head is the same, and the road is operated in so close association with the parent company as to make it to all intents a part of the larger road. The Central of New Jersey by itself, however, would be a notable road, as one of the great anthracite "coalers," and as holding, through a subsidiary company, vast quantities of anthracite coal.

History.

The fortunes of the road, like the Reading itself, have been checkered with receiverships and foreclosures, and indeed the history of the two companies has been one of close association for a quarter of a century and more.

The road suffered severely from the depression that followed 1873, and in 1877 passed into the hands of a receiver. In 1883 it was leased for ninety-nine years to the old Philadelphia and Reading, on a basis of 6% for its stock and the interest on its bonds. The Reading itself was unable to keep on its feet, and both roads passed into receivers' hands again. The lease was surrendered, and in 1887 a reorganization of the Central was effected. The reorganized company has survived from this date. In 1892, as part of the ambitious dreams of the McLeod management, the road was again leased to the Reading, through the subsidiary Port Reading Company, but this lease did not survive the year, and since that time the road has been continuously operated as a separate company.

In 1901, with the accession of the Baer regime in the Reading, a controlling interest, $14,504,000 out of a total of $27,131,800 par value of Central of New Jersey stock outstanding, was purchased by the Reading, and George F. Baer was made president.

The road operates 610 miles of railway, the most important part of which extends from Jersey City through eastern Pennsylvania to Scranton in the anthracite coal regions. Another important division extends southward centrally through New Jersey to a double terminal on Delaware Bay. About one-half of the road is double track.

Ownership.

As the Reading owns a clear control of the road, the directorate is made up in the Reading interest, four of the nine directors being also directors of the Reading, including George F. Baer, president; H. McK. Twombly, representing the Vanderbilt interests; Charles Steele, representing the Morgan interests, and Joseph S. Harris, of Philadelphia. The other directors are: J. Rogers Maxwell, chairman of the executive committee, also a director in the Lackawanna; Robert W. de Forest, vice-president and general counsel; George F. Baker, and Harris C. Fahnestock, of the First National Bank, New York; and Eben B. Thomas, president of the Lehigh Valley Railroad.

As illustrating the closeness with which the anthracite coal properties of the United States are held, it is to be noted of the Central of New Jersey directors, four are also directors in the Lehigh Valley and another the president of that road; four are also in the Lackawanna; three are also directors in the Erie, which in turn owns the New York, Susquehanna and Western.

The Central of New Jersey owns $1,600,000 par value of the Lehigh Valley stock, which added to the $1,000,000 of stock held by the Reading, makes up $2,600,000. This compares with $5,700,000 held by the Lake Shore. In other words, the Central of Jersey is a link in the Vanderbilt-Morgan-Standard Oil-Pennsylvania community of interest scheme which controls the anthracite coal industry.

Capitalization.

It will be seen from the following table that the nominal capitalization represents but a slight part of the Central's actual capitalization. This is due to the fact that it pays in rentals and guarantees on the bonds of subsidiary companies a larger sum than it pays in interest on its funded debt. Capitalizing these rentals and guarantees at 4%, the capital account of the road on June 30th, 1906, would stand as follows:

Common stock	$27,431,800
Funded debt	50,935,000
Total capital	$78,366,800
Rentals capit. at 4%	62,832,500
Approx. gross capital	$141,199,300
Securities held	23,347,400
Approx. net capital	$117,851,900
Approx. net capitalization per mile	$192,800
Average miles operated	610
Net earnings on net capitalization	8.4%
Stock on net capitalization	23%
Fixed Charges on total net income	50%
Factor of Safety	50%

It will be seen that the estimated net capitalization of the road per mile is very high; higher, indeed, than that of any of the other large eastern roads. The estimate of $192,800 compares with similar estimates of $161,742 for the Reading; $55,788 for the Lehigh Valley; $132,789 for the Lackawanna; and $145,000 for the Pennsylvania.

When this capitalization is compared with the net earnings the latter show 8.4%, as against 10.8% for the Reading; 13.7% for the Lackawanna; 15.5% for the Lehigh Valley; and 8.1% for the Pennsylvania. On the basis of net earnings, therefore, the capitalization does not appear excessive.

Much the larger part of this capitalization was in the form of interest-bearing debt, or its equivalent, the stock amounting to only one-fourth the estimated net capitalization.

On account of the high earnings, however, the Fixed Charges consume only one-half of the Total Net Income, leaving a wide margin of safety for the underlying securities.

Equities Owned.

The chief holdings of the Central comprise $8,352,900 par value of stock in the Lehigh and Wilkesbarre Coal Company. This is against a total outstanding issue of $9,212,500 of capital stock, or more than 90%. In addition to this the Central holds income and mortgage bonds of the Coal Company to the amount of $11,-189,388 par value.

At the latest estimates the Lehigh and Wilkesbarre Coal Company held 13,600 acres of anthracite coal lands, with an estimated quantity of 335,000,000 tons of unmined coal. If this coal could be mined at an average profit of 30 cents per ton, which is about the figure for the estimated earnings of the Philadelphia and Reading Coal Company, this would give a valuation to this property of around $100,000,000, so that the Central's share in the property at this valuation would more than pay off the company's funded debt, and leave the road free to the stockholders. Of course, the cash valuation could be nothing like this, but even if it were no more than one-third of this estimate, the Central's share in the property would amount to more than thirty millions of dollars.

In 1905, after expending $870,000 for improvements and charging off $226,000 for depletion of coal lands, and $146,000 in other sinking fund charges, the coal company showed a net profit of $625,000. This, however, was carried to profit and loss, and was not distributed to the shareholders.

The Central's equity in the undistributed earnings of the Coal Company is undoubtedly considerable and perhaps in excess of half a million dollars per annum.

The next most valuable treasury asset is the $1,600,000 par value in the stock of the Lehigh Valley, paying in 1906 only 4%, but easily earning twice this.

The company had in its treasury $1,362,000 of its own equipment bonds, and $1,116,000 of its general mortgage 4 per cents.

The total of securities owned was carried on the books at a valuation of $23,447,382 and the income on these amounted to nearly 5%. This on a 4% basis of valuation shows that the securities were carried at considerably below their cash value.

Increase of Capitalization.

Within the six and a half years from 1900, the funded debt of the company has shown but a slight increase and the stock none at all; while in the same period gross earnings have increased 33%. The items are as follows:

Year	Common Stock	Funded Debt	Total Capital	Gross Earnings
1900	$27,213,800	$46,586,100	$73,799,900	$15,853,062
1905-6	27,431,800	50,935,000	78,366,800	20,523,030

Increase over six and a half years: Total capital, 7%; gross earnings, 33%.

Character of Traffic.

For years the character of the Central's traffic has been steadily changing. For a long time prior to 1900 the earnings from coal carried exceeded the earnings from merchandise freight. In 1900 they were just about equal; in 1906 the revenue from merchandise was $8,671,000, and from coal traffic $7,462,000. The coal receipts showed a slight decrease from the previous year, due to the labor troubles in the spring of 1906, but it will be seen that even with this the merchandise traffic is steadily growing upon the coal traffic.

So are the passenger earnings. The latter averaged around three million dollars annually from 1890 to 1900. In 1906 they had risen to nearly four million dollars. In other words, the sources of the Central's earnings are broadening, and it is becoming less and less dependent singly upon the coal industry for its prosperity. Nevertheless it derives more than 35% of its gross earnings from its coal traffic, and is, therefore, still vitally sensitive to conditions in this industry.

Stability of Earnings.

In the ten years since 1897 the gross earnings have very nearly doubled, while the mileage has slightly decreased, through the surrender of small branches. Within this period the gross earnings per mile have risen from $17,907 to $32,644. In the following table the earnings from the New York and Long Branch and "other operations," are not included, since these "other operations" are not further distinguished. In 1906 the earnings from this source added over $2,500,000 to the gross earnings of the "rail lines," bringing the total of the gross earnings of the company for the year up to $23,101,089. The net earnings from these "other operations," amounting to $455,368 for 1906, have been included in the total net income of the company, and are included in the surplus shown.

Year	Miles Operated	Gross Earnings	Per Mile
1897	646	$11,568,328	$17,907
1898	637	11,505,847	18,062
1899	640	13,645,710	21,321
1900	642	13,975,646	21,769
1901	639	15,286,709	23,922
*1902-3	639	16,357,156	25,598
1903-4	639	18,421,952	28,829
1904-5	602	19,259,117	31,991
1905-6	610	20,523,130	32,644

* Fiscal year changed to June 30.

Maintenance.

In 1902 the fiscal year was changed to June 30th. In the following table no account is given of the expenditures for the first six months of 1902.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1901	2,183,594	$2,131	$2,589	$4,720
1902-3	2,377,162	2,903	3,455	6,358
1903-4	2,724,485	2,705	3,265	5,970
1904-5	3,077,570	2,813	3,754	6,567
1905-6	3,150,262	2,850	4,218	7,068
Average	2,702,614	$2,680	$3,456	$6,136

Miles extra main track, 295.

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Lehigh Valley..	2,771,846	$2,588	$3,429	$6,017
Lackawanna.....	3,079,629	4,754	3,579	8,333
Erie................	2,434,819	1,861	3,216	5,077

It will be seen that the maintenance charges of the Central compare favorably with those of the Lehigh Valley, but are on the average 25% below the Lackawanna, with only a slightly larger traffic density. The Central's maintenance is on about the same scale as that of the Reading; that is, with about three fourths the freight density, its expenses per mile are about three-quarters as large.

The expenditures for equipment for 1906 were sufficient to allow $1,727 per locomotive; $415 per passenger car, and $53 per freight car. The item for locomotives is rather low; otherwise the charges are fairly liberal and probably adequate. It is not likely, however, that any great amount of earnings is concealed here.

Improvements.

When we come to improvements, no such large items are to be found charged off from earnings as in the Lackawanna, though the item for 1906 was considerable. For five years these special appropriations have been as follows:

1901	$540,000
1903-4	1,665,146
1904-5	2,679,702
1905-6	3,373,798
Total	$8,258,646

This compares with similar appropriations of $5,713,000 by the Lehigh, and $16,934,000 by the Delaware and Lackawanna.

In 1906, these special appropriations were sufficient to add 75% to the nominal maintenance charges, that is to say they were sufficient to bring up the total amount for maintenance and improvements for 1906 to over $12,000 per mile.

Surplus Earnings.

In the following table the amounts of surplus shown are before the special appropriations noted above have been charged off. In 1906, after charging off $3,373,798 for improvements, there was still left $2,286,000 of net surplus, sufficient for the full 8% dividend and a small surplus to Profit and Loss.

In other words, with fair maintenance charges the road devoted a dollar and a half for improvements for every dollar of dividends paid. This is an excellent showing.

Year	Surplus	Per cent Earned on Common	Dividends Paid on Common	Average Price
1900	$2,619,363	9.7	5	$182
1901-2	3,763,484	13.9	5	171
1902-3	2,134,796	7.9	8	181
1903-4	4,326,203	16.	8	171
1904-5	5,032,422	18.6	8	174
1905-6	5,659,603	21.	8	212

Dividend Record.

Prior to 1889 dividends on the Central were a rare event. Since then, however, it has paid steadily, rising in the last four years to an eight per cent. basis. The record is as follows:

YEAR.	%	YEAR.	%
1883	1½	1890	6
1884	4½	1891	6½
1885-8	—	1892-4	7 yearly
1889	3	1895	5½

YEAR.	%		YEAR.	%	
1896	5		1900-1	5	yearly
1897	.......4¼		1902-7	8	yearly
1898-9	4	yearly			

Balance Sheet.

At the close of the fiscal year of 1906, the road showed:

Current assets.....................	$6,018,163
Current liabilities..................	5,968,913
Leaving a balance of..............	$49,250

There was due in dividends, interest and taxes accrued nearly $2,000,000, showing that with regard to immediate resources the road was not overly well supplied.

The item of cash was $1,138,643.

The balance to the credit of profit and loss was $9,515,631.

Investment Value.

From a road that formerly journeyed from one receivership to another, the Central has risen to the position of one of the solidest companies of the east, and few securities are more highly regarded.

Since 1900 the stock has not sold below $115 per share, and since it was put upon an 8% basis, it has not sold below $153 per share. It rose to a record figure of $239 in May of 1906. At the latter price the yield upon the stock was only 3.3%, and the price was evidently boosted to this figure on the theory of a prospective increase in dividend, since the control of the road is owned outright and the floating supply can be of no value, save as an investment. With money ruling between 5 and 7½% in 1906, it is evident that as an investment there were many more attractive issues.

There is at least one consideration that would weigh heavily against the disposition to increase an already high dividend rate. That is the widespread notion that the anthracite coal roads are earning a great deal more money than they have any right to, and a further increase in the dividend might readily stir up a lively agitation for a reduction in freight rates. The rates on the Central have never been low, and they are still high, the average rate per ton per mile amounting to about .84c. for 1906. This, considering the enormous coal traffic of the Central means a high average rate for coal carriage.

Earnings compared, there was undoubtedly a better basis for an increased dividend on the Central than, for example, on the Pennsylvania; but it must be remembered that the Pennsylvania has stood on a 6% basis, and that an increase from this does not mean so much in the public mind as an increase from 8%.

In the very moderate decline of 1906, the stock sold down to $204 per share. On this basis it is about a 4% stock, earning on an average more than twice its dividend, with a steadily growing traffic, and an enormous indeterminate holding of coal lands. In the general slump of March, 1907, the stock sold down to $165. Purchased somewhere between this and $200, it would probably yield the investor a fair interest upon his money, with a steady increment in the value of his holding from year to year.

CHESAPEAKE AND OHIO RAILWAY.

The Chesapeake and Ohio is one of the leading "soft coalers," whose chief business is the carriage of bituminous coal from the fields of West Virginia and Virginia to tide-water. Throughout its entire length it is to all intents paralleled by the Norfolk and Western, and this paralleling is very closely pursued alike in their gross earnings, character and development of traffic, ownership and management.

Both these roads are in turn being paralleled by the new Deepwater and Tidewater Railroad, which, so it is understood, Mr. H. H. Rogers, of the Standard Oil Co., is building from the Pocahontas coal fields to Norfolk, Va.

History.

The Chesapeake and Ohio came into existence in 1868, with the merger of the Virginia Central and Richmond and Covington Railroads. The Virginia Central was one of the first railways in the United States, having been chartered as far back as 1836, but its completion was delayed in one way and another until 1867. Soon after the consolidation the company defaulted its interest and efforts towards readjustment proving futile, it finally went into the hands of a receiver in 1875. It was then reorganized into the present company, in 1878, under the control of the late C. P. Huntington. The road did not prosper under the Huntington management, and it was allowed to deteriorate, so that its interest payments were again defaulted and a second reorganization, this time without foreclosure, was carried out under the auspices of Drexel, Morgan and Company, when Vanderbilt and Morgan interests gained control of the road.

From this onward its progress was steady. The road was extended westward to Cincinnati, the Richmond and Allegheny was absorbed in 1890, and another small road in 1892. Owing to continuous freight wars, however, the road was not prosperous, and its average rates fell steadily to 1899. In the following year, in carrying out the Community of Interest idea inaugurated by

Mr. Cassatt of the Pennsylvania, the latter road made large purchases of its stock, so as to obtain, with the Vanderbilt interest, a controlling interest in the Chesapeake. Since this time its earnings have grown very rapidly, the average of its freight rates has been raised, and the road has risen to a highly prosperous condition. With the absorption of some smaller lines, its operated mileage in 1906 reached 1,826 miles, and with the trackage of other lines used jointly, in 1906, the road had 233 miles of second track.

Ownership.

On July 1st, 1905, the New York Central owned stock representing an outlay of $1,638,445, and the Big Four of $2,453,569. At the same time the Pennsylvania Railroad proper owned $10,130,000 par value of the stock, the Pennsylvania Company, $4,000,000, and the Northern Central, $1,500,000 par value, a total for the Pennsylvania interest of $15,630,000 par value. The New York Central stock was purchased when the stock was held at a very low figure, and it is understood that these holdings with the Pennsylvania's constituted a controlling interest in the road. The Pennsylvania stock was disposed of in the Fall of 1906 to the banking firm of Kuhn, Loeb & Co.

Under the former regime, the directorate was divided between the two controlling interests, the Pennsylvania being represented on the board by its three vice-presidents, John P. Green, Samuel Rea, and John B. Thayer. The New York Central had also three directors: William H. Newman, president of the New York Central, Chauncey M. Depew, and H. McK. Twombly. The other directors were George W. Stevens, president, and Decatur Axtell, vice-president of the Chesapeake and Ohio; and Henry T. Wickham, of Richmond, Va., a long time director of the road.

In 1905 the Chesapeake and Ohio reported 1,478 stockholders, and in 1906 the minority interest, representing about $18,000,000 par value of the capital stock, was organized by Messrs. Scott & Stringfellow, of Richmond, Va., for the purpose of securing an increase in the dividend rate.

Up to 1906 the controlling interest in the Norfolk and Western was owned by the Pennsylvania, so that the chief competitor of the Chesapeake and Ohio was under practically the same ownership. At its western terminals, the road operates in close traffic arrangements with the Vanderbilt and Pennsylvania lines

and especially the Big Four, and it is jointly interested with the latter in the Louisville and Jeffersonville Bridge.

The Chesapeake and Ohio owns a one-sixth interest in the majority of the common stock of the Hocking Valley Railway, and it is also joint guarantor with five other roads in the bonds of the Richmond-Washington line.

Capitalization.

On June 30th, 1906, the capitalization of the road stood as follows:

Com. stock	$62,790,700
1st Preferred	7,700
2nd Preferred	700
Total stock	$62,799,100
Funded debt	86,680,354
Due on Equipment	9,824,666
Nominal capital	$159,304,120
Rentals cap. at 4%	7,792,500
Approximate gross capitalization	$167,096,620
Securities held	28,692,489
Approx. net capitalization	$138,404,131
Approx. net cap. per mile	$77,142
Miles operated	1,794
Net earnings on net capital	7.0%
Stock on net capital	45%
Fixed Charges on total net income	53%
Factor of Safety	47%

It will be seen that the estimated capitalization per mile is considerably below that of the Norfolk and Western, its $77,-142 per mile standing against $96,108 per mile for its competitor. Likewise the Chesapeake and Ohio shows a slightly higher per centage of net earnings on the estimated net capitalization, its figure of 7% standing against 6.4% for the Norfolk and Western. On the other hand a smaller percentage of its capitalization is represented by stock, its 45% standing against 52% for the Norfolk and Western. Similarly fixed charges consume a higher

percentage of the total net income, the fixed charges for 1906 consuming 53% as against 37% for the Norfolk and Western. The Factor of Safety for the underlying securities of the Chesapeake and Ohio is therefore considerably less than that of its competitor.

During the fiscal year of 1906, the road purchased the entire capital stock and property of the Coal River Railway, including eighteen miles of completed road and extensions under away, amounting to about 50 miles, in order to develop valuable coal properties. The road will guarantee $3,000,000 of bonds of this road.

In the same year the stock of the Western Pocahontas Corporation was purchased at a price of $250,000, the road guaranteeing in addition $750,000 of bonds. This purchase carried with it control of about 30,000 acres of coal and timber land.

Equities Owned.

The $34,177,000 par value of securities owned is carried on the books of the company at a valuation of $28,692,489. The company does not itemize its Other Income, but the total amount received from other sources than earnings in 1906, amounted to only $204,352, which represents less than one per cent. on the valuation of the securities held in the treasury. By far the larger part of these securities were the stocks and bonds of the Chesapeake and Ohio Railway Company of Kentucky, the parent road holding a par value of slightly over $25,000,000, equally divided between stocks and bonds.

Of the remainder the most notable items were $3,500,000 of the bonds of the Covington, Cincinnati and Eastern Railroad, and $1,500,000 of its stock; and $1,154,000 par value of the Hocking Valley common stock, representing one-sixth interest in the control of the road. The road is interested in and guarantees the bonds of the Norfolk Terminal and Transportation Company, the Chesapeake Grain Elevator Company, the Passenger and Belt Railway Company, and the Chesapeake Steamship Company, Limited. None of these guarantees is of large amount.

Both the Grain Elevator Company and the steamship line were run at a small nominal loss. In 1905 the railway company's interest in the steamship company was sold to the minority stockholders in England under a contract to add additional steamers and continue the service for a term of years. From

this sale $400,000 was derived, which was invested in five hundred box cars. Through this sale the company ceased its purchase of the steamer company's debentures to which it was obligated and on which it paid in 1905, $48,835.

None of its holdings represent equities of any considerable value.

Increase of Capitalization.

The capitalization of the Chesapeake and Ohio, even under the reorganization of 1888 was heavy and the road has been handicapped on this account and had to grow up to its capitalization through the steady increase of business.

Neglecting a very small amount of preferred stock, the items stand as follows:

Year	Common Stock	Funded Debt and Equipment	Total	Gross Earnings
1899-0	$60,527,800	$70,844,608	$131,386,408	$13,402,070
1905-6	62,790,700	96,505,020	159,295,720	24,602,988

Increase over six years: Total capitalization, 21%; gross earnings, 83%.

The increase of capitalization has been divided between the extension of the road, for new construction, or the purchase of smaller lines, and the purchase of new equipment. Since 1900, the road has added about 350 miles of main line and a considerable amount of second track.

Character of Traffic.

Carriage of bituminous coal makes up 57% of the tonnage of the road and coal and coke together over 60%. The next largest item is lumber, amounting to nearly 11%, and the rest of the traffic is evenly distributed over various items. The carriage of grain and other mill products amounted to only a little over 4%.

Contrary to many other roads, the coal tonnage of the Chesapeake and Ohio has increased very much more rapidly than its other freight. Since 1899 coal tonnage has more than doubled while the general business of the company has increased a little more than a quarter. In other words, the road is becoming more and more dependent upon the prosperity of a single industry.

Stability of Earnings.

Like the Norfolk and Western, the gross earnings of the road have shown astonishing development since 1896, but of the two, the Norfolk and Western has increased considerably faster. The gross earnings of the latter rose in this period from $10,900,000 to $28,500,000, while the Chesapeake's earnings rose from about the same figure to only $24,500,000. There was a still more striking discrepancy in the earnings per mile. These for the Norfolk and Western in 1896 were $6,946 per mile as against $7,575 for the Chesapeake and Ohio; while in 1906 the figure for the Norfolk and Western was $15,373 as against $13,714 for the Chesapeake. The mileage and earnings for the Chesapeake and Ohio through these years stand as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895-6	1,360	$10,221,131	$7,575
1896-7	1,360	10,708,133	7,873
1897-8	1,360	11,788,557	8,668
1898-9	1,445	12,009,839	8,311
1899-0	1,476	13,402,070	9,080
1900-1	1,506	15,371,541	10,206
1901-2	1,618	16,524,379	10,212
1902-3	1 637	16,711,602	10,208
1903-4	1,651	19,297,525	11,688
1904-5	1,672	20,724,371	12,395
1905-6	1,794	24,602,988	13,714

Though the earnings of the road have increased heavily within this period, a considerable part of this prosperous showing is due to an increase in rates. In 1899, the bedrock year for all the roads of the country, and likewise for the Chesapeake and Ohio, the average rate per ton per mile had declined to .36c. In 1906, the average rate was .42c., an increase of .6 mills. In reality the rise in rates was considerably greater than this, since the average earnings of the coal tonnage in 1906 was only .32c. as against .58c. for ordinary merchandise traffic, and as already noted the coal tonnage has been increasing about four times as fast as its other traffic. It follows, therefore that the rates must be materially higher than in 1899 in order to bring up the average freight rates to .42c.

The increase in the average freight rate from 1899 represents upwards of $2,700,000 in the gross earnings for 1906; that

is to say, maintenance and other charges remaining the same, more than half the entire surplus for 1906 would have been wiped out had the freight rates of 1899 been still in force, and so would the entire average surplus for the six years under view.

What the Community of Interest plan has enabled this and other roads to do is to materially increase its rates, spend very much higher sums annually for maintenance and improvements, and still show a comfortable surplus at the close of the year. Stated in other terms, since 1899, the gross tonnage of the road has increased 63%, while its freight earnings have increased 77%.

The astonishing increase in tonnage in 1906 will hardly escape the attention of the investor, amounting as it did to 23% or nearly one quarter of the total traffic of the road. This increase was altogether abnormal and it is scarcely possible that anything like this rate of increase could be maintained for any length of time.

Maintenance.

The maintenance for a period of six years has been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	2,026,013	$1,472	$1,496	$2,968
1901-2	1,974,250	1,345	1,703	3,048
1902-3	1,606,899	1,331	1,636	2,967
1903-4	1,917,441	1,397	2,216	3,613
1904-5	2,244,776	1,309	2,432	3,741
1905-6	2,575,392	1,471	2,491	3,962
Average	2,057,510	$1,387	$1,995	$3,382

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
B. & O.	2,282,704	$1,876	$2,416	$4,292
Norfolk & West...	2,190,314	1,563	1,903	3,466

The average traffic density through this period was about the same with the Norfolk and Western as with the Chesapeake and Ohio, and their average expenditure per mile was likewise about the same, but in 1901 the average expenditure for maintenance was $270 per mile higher on the Chesapeake than on the Norfolk, while in 1906 it was $460 per mile less. In other words the maintenance charges on the Norfolk road have risen very

much more rapidly than on the Chesapeake, and had the Chesapeake been maintained in 1906 on the same scale as the Norfolk, this would have added upwards of $800,000 to its maintenance and reduced the surplus shown by a corresponding amount.

The report of the company itemises the maintenance and equipment and the sums in 1906 amounted to an average of $2,-114 per locomotive in service, $1,090 per passenger car, and $92 per freight car in service. These were about the same charges as in 1905, while the maintenance of way was about $160 per mile higher. This increase in no wise corresponds to the astonishing increase of tonnage in 1906, and it is therefore doubtful if the items of maintenance for 1906 conceal any considerable sum of earnings. It is evident moreover, that with a competing road with almost identically the same territory and traffic, spending four or five hundred dollars per mile more on its maintenance, the Chesapeake would hardly be in a position to reduce its charges and still keep its property up to the competitive standard. Reference to the table of the traffic density for the Norfolk and Western will show that the latter likewise had a quite abnormal increase of traffic for the year, but at the same time the Norfolk and Western added $425 per mile of road to its maintenance charges, while the Chesapeake and Ohio added only about $229 per mile. All this has a very material bearing upon the question of increased dividends for the Chesapeake.

Improvements.

In addition to the regular charges for maintenance considerable sums have been set aside from the surplus earnings for improvements. The items which follow include $450,000 in 1904 and $735,000 in 1905 for principal of equipment trusts:

1900-1	$1,304,172
1901-2	1,440,815
1902-3	591,012
1903-4	1,311,366
1904-5	1,052,477
1905-6	2,522,739
Total	$8,222,581

In the appropriations for 1906 $988,333 was payment on the principal of equipment trusts, and $1,534,406 for improvements and new equipment.

The total of $8,322,581 for the six years compares with $16,-220,001 for the Norfolk and Western. In other words, with about the same average traffic density, and with slightly lower average maintenance charges, the Chesapeake and Ohio has set aside from its earnings nearly $8,000,000 less than its chief comeptitor.

Surplus Earnings.

With its liberal scale of maintenance charges, the nominal surplus shown by the Chesapeake and Ohio up to 1906 has been relatively small. The figures for six years have been as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$2,001,897	3.3	1	44
1901–2	2,060,409	3.4	1	48
1902–3	1,269,604	2.1	1	40
1903–4	1,944,511	3.1	1	37
1904–5	2,871,639	4.6	1	53
1905–6	4,607,223	7.3	1	58

This represents an average surplus of $2,500,000. On about the same scale of maintenance charges the Norfolk and Western was able to show in the same period an average surplus of about $5,700,000, or more than twice that of the Chesapeake and Ohio. This was due in part to a more rapid increase in the gross earnings, and in part to the fact that Fixed Charges on the Norfolk consume a lower percentage of total net income than on the Chesapeake.

It will be noted that the increase in the surplus shown for 1906 was very heavy, amounting to nearly $2,000,000 more than the previous year. As already explained this was in part accomplished by only a very slight rise in the total of the maintenance charges per mile, as against a very astonishing increase of nearly 25% in the total tonnage of the road, and as against an increase of a full 15% in the traffic density. Had the increase in the maintenance charges been directly proportioned to the increase in traffic density, maintenance would have been $561 per mile higher than in 1905, or $340 more than it actually was, and $340 per mile on the total mileage of the road would have added about $600,000 to the maintenance charges.

Furthermore it has already been noted that with but a slightly higher traffic density, the maintenance charges on the Norfolk and Western were $460 more on the Norfolk than on the Chesapeake in 1906. Either way it may be regarded, therefore, the surplus shown

by the Chesapeake in 1906 would have been between $600,000 to $800,000 less had its own standard of maintenance in 1905 or that of its chief competitor in 1906 been equalled.

The Balance Sheet.

The balance sheet at the close of the fiscal year of 1906 did not show the company in very good position as to working capital.

The current assets show	$4,741,611
Current liabilities	4,650,672
Leaving a working balance of	$90,939

In addition to the ordinary current liabilities, there was an item of bills payable amounting to $2,045,000. It will be seen, therefore, that the company was in need of working capital.

The item of cash was $1,523,951. The amount to credit of Profit and Loss was very small, amounting with the 1906 addition of $1,005,000, to only $1,534,713. The fact that the surplus shown was so small, combined with the need of working capital has been a factor militating against any increase of dividend.

Investment Value.

Since 1899 a one per cent. dividend has been paid annually upon the capital stock, and these are all the dividends that have ever been paid by the company save the very slight amount paid upon the preferred stock. In 1906 the minority holders combined to urge upon the management an increase of this dividend, adducing in favor of this a series of very attractive figures and pointing especially to the high earnings of the year.

But if the surplus shown since 1901 be averaged, the yearly amounts represented only 3.8% on the capital stock. It will be seen, therefore, that the percentage of 7.3 shown in 1906 was quite beyond the normal, and this high percentage was due, as already explained, to a very abnormal increase in the traffic of the road, with a rather small increase in the maintenance charges for the year.

If the average for the six years had been equally divided between dividends and improvements, according to the traditional Pennsylvania policy, the road would have paid only 1½% as against 1% actually paid.

The maintenance charges since the advent of the Pennsylvania influence have been considerably increased and are undoubtedly liberal, and in addition to this, appropriations for improvements have not been niggardly. This policy of improvement has resulted in a very heavy increase in earnings in the face of a rather small in-

crease in the capital, and undoubtedly the Chesapeake and Ohio is in a position at least to double its dividend if not more.

The Chesapeake & Ohio had obvious need of funds to take care of the remarkable growth of its business, but conditions of 1906-7 were not propitious for the sale of bonds; it is too much overcapitalized to sell its stock and it was this situation which undoubtedly was decisive in the management's refusal to increase the dividend rate. It was to be assumed that the necessary temporary financing would be by means of short time notes and that with the return of more normal bond conditions, funds would be provided by further bond issues. If this were done on reasonable terms, the dividend rate might readily be increased to perhaps 3%.

The future of the stock will be very materially influenced by the disposition of the Pennsylvania's holdings, sold to Messrs. Kuhn, Loeb & Co. The latter are known to be closely associated with the Standard Oil interests in many enterprises, and they were also purchasers of half of the Pennsylvania's holdings in the Norfolk & Western. In turn, the Deepwater & Tidewater, paralleling both these roads, is the creation of Mr. H. H. Rogers, and in the minds of some this suggested that in one fashion or other a holding company might take over an interest in all three roads, insuring a large degree of harmony in their management. This holding company might readily be the Union Pacific, which has also large holdings in the Baltimore & Ohio, in which case the soft coal industry of the East would come very largely under a single control.

In any event it is certain that the Chesapeake & Ohio is earning much more than its 1% dividend, and in anticipation of an increased rate in 1906 the stock was run up to $65 per share. It receded to $32 a few months later in the general decline in prices. It might readily go lower, but purchased at anything like the latter figures it should certainly show large profit for a long pull.

CHICAGO AND ALTON RAILROAD.

The "Alton" as it is familiarly known, is one of the intermediate roads of the interior which, by reason of its strategic advantages, has always occupied an exceptional position among western railroads. It operates the most direct line between Chicago and St. Louis, with another extending to Kansas City, and numerous branches throughout central Illinois. It is not a large road, has been but little extended in many years, and still operates less than a thousand miles. But it has been within recent years immensely improved, so that it is now one of the best equipped properties in the middle territory. The new management dates from 1899, since which time the policy and character of the road have been considerably altered.

Previous to this time the Alton had occupied a position of exceptional independence, and was long a tower of financial strength among western roads; furthermore, by reason of its aggressive management a thorn in the sides of its competitors. This was under the old Blackstone management which for years directed the destinies of the Alton, carrying it through the heavy depression of 1893-7, with apparently tremendous success, and maintaining its old high rate of dividends while the dividends of other roads were passed, or sharply cut, or the roads themselves passed into bankruptcy. The stock was quoted at high figures, and coveted by investors.

In 1899, control of the property was purchased by a syndicate headed by E. H. Harriman, Geo. J. Gould, James Stillman and Kuhn, Loeb & Co. It was found that the road was in need of new equipment, of reconstruction, and in fact of almost everything that goes to the making of a fine railroad property. It had largely to be rebuilt. To do this a heavy issue of new securities was required, and in 1900 the affairs of the company were reorganized through the creation of the Chicago and Alton *Railway* Company, which leased the road for a period of 99 years, at the same time acquiring practically all of the stock

of the old road. The latter was exchanged for the stock of the new company, which had an authorized capital of $20,000,000 of preferred and $20,000,000 of common stock.

In 1906 these two companies were consolidated into the new Chicago and Alton *Railroad* Company, with practically the same capitalization as the Railway company. Under the new arrangement the stockholders of the railway company exchanged their stock, share for share for the preferred and common of the new railroad company, while the few remaining shareholders of the old railroad company, the original Alton, were given the opportunity to exchange their stock for cumulative 4% prior lien and participating stock of the new company, of a total issue of 8,993 shares. The road is henceforth to be operated by the new company without the former complications of leases, the maintenance of two sets of books and so forth.

During 1906 about 55 miles of new trackage heretofore operated by the Quincy, Carrolton and St. Louis, brought up the total operated mileage to 970 miles. Besides this there were 126 miles of additional main track, while other lines, jointly operated with the Big Four and the Atchison, bring up the practical total of double track to over 200 miles.

Ownership.

In 1904-5 when the Alton seemed solidly established under Union Pacific management, it was announced that interests connected with the Rock Island had purchased very near the control, the purchase being one of the memorable "coups" of the "Street". It turned out that the Harriman-Union Pacific interests owned but little more than a quarter of the total stock. The Rock Island interests did not however, appear to have absolute control, and the prospective struggle for supremacy was avoided through the formation of a voting trust in which the stock held by the Rock Island, the Union Pacific, and some other interests were joined. The amount acquired by the Rock Island was $4,470,000 par value of the preferred and $14,320,000 par value of the common, constituting slightly less than a majority. On June 30th, 1906, the Union Pacific owned $10,343,100 par value of the preferred. In June, 1907, the voting trust agreement was abrogated and the road passed entirely under Rock Island control.

Under this arrangement the directorate of 1906, was made up as follows: W. H. Moore, James H. Moore, D. G. Reid, Robert

Mather and B. F. Yoakum, and John J. Mitchell, president of the Illinois Trust Company, representing the Rock Island; E. H. Harriman and James Stillman, representing the Union Pacific; James B. Forgan, president of the First National Bank of Chicago; S. M. Felton, president of the Alton; Norman B. Ream, also a director in the Burlington, the Erie, the Baltimore and Ohio and other roads.

In 1906, Benj. F. Yoakum, at the head of the Rock Island-'Frisco System, was elected chairman of the executive committee, succeeding E. H. Harriman, according to the agreement by which the Rock Island and the Union Pacific should control the road in alternate years. The other members of the executive committee were E. H. Harriman and James Stillman, representing the Union Pacific, and W. H. Moore and D. G. Reid, representing the Rock Island.

Despite the fact that the control of the road has been so greatly sought, the stock is still apparently widely distributed, the road reporting in 1905 2,039 shareholders. This stock is closely held and the floating supply is small.

At the present time the road is operated in harmony with the Rock Island and with the Union Pacific, and in direct affiliation with these two roads.

Capitalization.

On June 30th, 1906 the capitalization of the road stood as follows:

Common stock	$19,542,800
Preferred stock	
Non. cum. 4%	19,544,000
Cum. 4% prior lien	899,300
Total stock	$39,986,100
Funded Debt (net)	$64,350,000
Guaranteed stocks	3,693,200
Equip. Notes	3,016,918
Total capital	$111,046,218
Average capitalization per mile	$114,480

Average miles operated.............	970
Net earnings on net capitalization....	3.7%
Stock on net capitalization...........	36%
Fixed Charges on total net income....	73%
Factor of Safety.....................	27%

Of the funded debt, $8,000,000 of the refunding bonds are held by the road itself, $7,000,000 of these being deposited as security for the $5,000,000 of collateral trust notes, and the balance in the treasury of the company. This $8,000,000 has been excluded from the table and the funded debt given is net. The securities held by the company are not separately itemized, but from the income account it appears that the $8,000,000 of bonds noted above is the only item of importance.

Beyond the interest on guaranteed stocks, the amount paid in rentals of the leased lines is small, and as the face value of these stocks is included in the estimate of capitalization given above, this item is not further considered.

It will be seen that the capitalization of the road for a middle west line is very high, amounting to $114,480 per mile. The Alton is essentially a main track road, with branch lines of comparatively small amount, and on this account its mileage capitalization would be much higher than large lines like the Burlington, the Rock Island or the North Western, occupying much the same character of territory, but having a much larger proportion of branch mileage.

Nevertheless, even with this reservation, it will be seen that the capitalization is very high, since the net earnings on this capitalization represent only 3.7%, as against 10.5% for the North Western, and 9.7% for the St. Paul. Moreover, a large part of the capitalization is fixed interest debt, the stock representing only 36% of the total capitalization.

Still further evidencing the high capitalization is the fact that the Fixed Charges consumed in 1906 73% of the total net income. This left a Factor of Safety for the underlying securities and guarantees of only 27%. On a road of other than the stable earnings of the Alton and its close association with two great systems, affording assurance of steady business, this percentage would be dangerously low. As a matter of fact the road is in excellent condition and despite the large amounts consumed by Fixed Charges, its securities enjoy a fair degree of confidence.

Since the Alton's holdings of other securities are relatively small, it has no valuable equities in other roads.

Increase of Capitalization.

Since the organization of the new Railway company in 1899, there has been no increase in the capital stock save the new issue of cumulative 4% prior lien stock already noted. Since 1902 the fixed interest debt has increased about $13,000,000, or about 25%. In the same period the increase of tonnage has about corresponded with the increase in the debt. The increase in gross earnings has been rather less than this, due to the reduction in the average freight rate received. For five years the items compare as follows:

Year	Common Stock	Preferred Stock	Funded debt and guaranteed Stock	Total Capital	Gross Earnings
1900–1	$19,542,000	$19,544,000	$54,000,000	$93,086,000	$9,036,655
1905–6	19,542,000	20,443,300	71,060,118	111,045,418	11,586,094

Increase over five years: Total capital, 19%; gross earnings, 28%.

Character of Traffic.

The Alton does not separately itemize its tonnage, but the report of 1906 shows that 46% of its tonnage is from the carriage of coal. This item has very considerably increased within six years, and the revenue accordingly, but the rate received from this class of business is low, since the total revenue derived from this source constituted only 15% of the gross earnings of the road.

Passenger earnings are large, the passenger revenue amounting to about 28% of the total.

Stability of Earnings.

Within many years the mileage of the road has remained very nearly the same, the total increase in ten years amounting to only 126 miles. In the same period the gross earnings have risen from $6,673,000 to $11,586,000.

The figures of 1896-7, however, were those of a period when the Alton's earnings had heavily declined. Under the old Blackstone management, in 1892, the gross earnings per mile amounted to $9,166, a level that was not regained until eight years later.

Since the new management took hold in 1899, the receipts per mile have increased from $9,118 in 1900, to $11,940 in 1906, an increase of a little over 30%. The items by years are as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	844	$6,673,605	$7,911
1897–8	844	6,286,569	7,542
1898–9	856	6,546,590	7,765
1899–0	855	7,796,449	9,118
1900–1	919	9,036,655	9,826
1901–2	920	9,225,739	10,031
1902–3	915	10,071,092	11,001
1903–4	915	11,425,853	12,484
1904–5	915	11,797,313	12,890
1905–6	970	11,586,094	11,944

It will be seen that both the total gross earnings and the earnings per mile were higher in 1905 than in 1906. This was due in part to the fact that in 1904-5 the road did a heavy business in connection with the St. Louis Fair, and for the rest to a decline in the average freight rate received. The reduction in the rate from 1905 was from .69c to .64c, representing a difference in the year's freight business of over $700,000 in revenue.

In the report for 1906 President Felton called attention to the fact that in 1898, the year before the property was acquired by the present management, the average rate per ton per mile was .83c as compared with .64c in 1906. This reduction represented a difference on the year's earnings of $2,248,000. President Felton remarks that "from this it would appear that the benefits derived from the investment of a large amount of money in the property have accrued mostly to the public."

The decline in the receipts from passenger traffic for 1906 amounted to $775,000 from the previous year.

Maintenance.

It is obvious from the following table, that with a traffic density of about 1,200,000 ton-miles per mile of road, the maintenance charges have been heavy, and especially in the three last years shown, when the amount for maintenance was nearly $3,000 per mile.

It would be foolish, however, to compare this maintenance with the maintenance charges of great systems like the Rock Island, the Burlington or the North Western, having extensive mileage through thinly settled territory, with many branch lines

on which the traffic density is very low. Considering the Alton's large passenger business it is probable that these amounts are none too high, in comparison with the standards set by prosperous roads in recent years. On the other hand it is evident that the sum is ample and that in case of need these charges might perhaps be somewhat reduced without affecting the condition of the road. The items for the several years are as follows:

Year	Traffic Density	Maintenance per Mile Way	Maintenance per Mile Equipment	Total
1900–1	895,614	$1,207	$956	$2,163
1901–2	981,245	1,042	1,132	2,174
1902–3	1,204,698	1,326	1,301	2,627
1903–4	1,201,854	1,580	1,345	2,925
1904–5	1,103,069	1,599	1,459	3,058
1905–6	1,210,611	1,471	1,450	2,921
Average	1,099,515	$1,371	$1,273	$2,644
Louisv. & Nash.	929,594	$1,490	$1,537	$3,027
Ill. Central....	1,180,351	1,386	1,486	2,872
Chic. & E. Ill..	1,703,403	867	1,254	2,121

Improvements.

The expenditures for improvements since the advent of the new management have been very heavy. For example the report of 1906 states that since 1899 the total tractive power of locomotives in service has been increased 132%; the total capacity of freight cars, 145%; and correspondingly large amounts have been expended on the roadbed, on new bridges, heavier rails, etc. The expenditures on this work alone for the three years ending July, 1903, were nearly $13,000,000. The larger part of this work, however, was paid for by the issue of new securities and not from earnings.

Surplus Earnings.

The surplus shown in six years has been as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned On Common	Average Price (Calendar Years)
1900–1	$1,149,742	4	1.8	36
1901–2	825,341	4	——	38
1902–3	880,769	4	——	37
1903–4	1,324,146	4	2.7	27
1904–5	1,602,385	4	4.1	40
1905–6	1,009,980	4	1.1	37

The decrease in the surplus in 1906 results from the decline of nearly $1,000 per mile in the gross earnings, the reason of which has been already stated.

Dividend Record.

In former days the Alton was one of the great dividend payers, the record for thirty years back standing as follows:

Year.	Preferred.	Common.
	%	%
1877...........	7½	7½
1878...........	7	7
1879...........	7	6
1880...........	7	6½
1881-3.........	8 yearly	8 yearly
1884...........	10	10
1885-96........	8 yearly	8 yearly
1897...........	7¼	7¼
Chicago and Alton *Railway*		
1901-6.........	4	——

Since the retirement of the old management, and the reorganization of the company, the only dividends paid have been the 4% to which the preferred is limited. These have been paid since 1901 continuously.

The Balance Sheet.

At the close of the fiscal year of 1906 the balance sheet showed:

Current assets	$2,411.538
Current liabilities	3,283,941
Leaving a debit balance of............	$872,403

The company, however, held in its treasury $1,000,000 of its own bonds, carried on the books at a valuation of $800,000, and inasmuch as this item has not been considered in the estimate of capitalization, it is not included here. Deducting this sum from the amount shown on the balance sheet, as has here been done, it will be seen that the company was in need of working capital, and that a current credit balance was secured only by including these bonds, an item which is not usually carried among assets.

The item of cash amounted to $1,441,263, and the balance to the credit of profit and loss was extremely small, amounting only to $261,390.

Investment Value.

The heavy proportion of fixed charges which must be paid out of the total net income of the road leaves but a relatively small surplus, the amount shown in 1906 representing less than 10% of the gross earnings. This is barely sufficient to pay the 4% on the preferred stock, and leaves nothing at all for the common. In the six years under view the preferred dividends have practically exhausted all the available surplus, a fact which is evidenced by the small amount carried to the credit of Profit and Loss.

It is true that this has been in the face of, and is doubtless to some extent the result of, heavy maintenance charges; yet it could scarcely be maintained that the Alton's maintenance charges could be cut down by a thousand dollars per mile, and something like this heavy reduction would have been required to justify any dividends on the common stock.

The heavy increase in fixed charges has practically consumed all the increase in gross earnings, and at the end of six very prosperous years for the rest of the country, the road is without any considerable assets in its treasury. Furthermore the benefits in the decreased cost of transportation resulting from the heavy improvements have been fully offset by the decline in the average freight rate. The largest single item of growth has been the coal traffic, which is a low grade business.

At the present time, therefore, the prospects for dividends on the common stock do not seem very assuring, and hardly sufficient to justify the considerable price at which this stock has ruled. Quotations of $47 per share in 1904 were occasioned rather by efforts to acquire control of the road than from any investment value which the stock might have. The common sold as low as $18 per share in 1903, but in 1906 its average price was above 30. In March, 1907 it sold at $15. If the holdings of the Rock Island and affiliated interests are sufficient to ensure absolute control, the rest of this stock is worth such a figure only to speculators counting upon a manipulative rise. On account of the pecular position of the road the quotations for

the stock are apt to be higher than otherwise they might, so that, purchased at somewhere near the low figures of 1907, the stock might readily yield a profit to the purchaser who was willing to wait for a turn in the market. But there are many stocks whose increase in earnings in recent years afford a much more solid basis for investment than the Alton.

As a 4% stock with a six years record, the preferred might reasonably sell around $75 per share, with money ruling at 4%. In general, the quotations in the last six years have ruled considerably below this, the stock declining to $60 per share in 1903, and showing its highest price of $85 per share at the time of the Rock Island's heavy purchases in 1904. In 1906 the stock reached $80 per share only during the January rise and in March, 1907 it sold at $62. Limited to 4%, the stock has no further prospects and is of value only for control or as an investment. If control is already securely lodged, it is then simply a 4% stock, showing a rather meagre margin of safety for its dividends. At 1906 rates for money, it was scarcely worth 1906 prices.

CHICAGO AND EASTERN ILLINOIS RAILROAD.

The Chicago & Eastern Illinois is a subsidiary and virtually a part of the St. Louis & San Francisco system, which is, in turn, a part of the Rock Island System. All of the common stock and $6,050,400 of the preferred stock is owned by the St. Louis & San Francisco, leaving only $2,780,300 (preferred) of the stock of the company in the hands of the public. The road is operated separately but has the same general directorate and executive committee as the rest of the Rock Island system.

The road operates a line extending from Chicago to Terre Haute and another line from Woodland to Thebes and Joppa in Southern Illinois. In 1906 it operated 948 miles.

Securities outstanding were as follows:

Capital Stock,	
Common	$7,217,800
Preferred	8,830,700
Total Stock	$16,048,500
Funded Debt	33,462,000
Equipment Notes & Bonds	9,832,520
Total Capital	$59,343,020
Per Mile	$62,598

For the fiscial year of 1906, the road showed:

Gross Earnings of	$9,928,562
Net Earnings	3,358,073
Other Income	316,418
Total Net Income	3,674,492
Fixed Charges	2,529,534

Six per cent. was paid on the preferred and 8% on the common, consuming practically all the surplus income.

The traffic density and maintenance charges for a period of six years compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900-1	1,275,619	$870	$ 842	$1,712
1901-2	1,502,253	837	1,011	1,848
1902-3	1,879,744	889	1,158	2,047
1903-4	2,046,188	882	1,585	2,467
1904-5	1,691,214	861	1,399	2,260
1905-6	1,825,403	864	1,533	2,397
Average..	1,703,403	$ 867	$1,254	$2,121
Chic. & Alton..	1,099,515	$1,371	$1,273	$2,644
Ills. Central ..	1,180,351	1,386	1,486	2,872
Louis. & Nash.	929,594	1,490	1,537	3,027

It will be seen that with a traffic density two-thirds greater than the Chicago & Alton or the Illinois Central or the Louisville & Nashville, the average maintenance charges on the Chicago & Eastern Illinois were from $500 to $900 per mile less. While the maintenance charges on the three roads used for comparison were undoubtedly very liberal and concealed some earnings, yet the difference in traffic density considered, it would have seemed as if the charges on the Chicago & Eastern Illinois should have been at least equal to those of the Chicago & Alton. In other words, the road would have charged itself on the average at least $500 per mile more than it did. In all probability, the property could hardly have been maintained at the level of the other roads without an even greater excess charge.

The difference of $500 per mile would amount on the average to in the neighborhood of half a million dollars per annum. In other words, the nominal surplus shown in 1906 would have reduced by nearly half, that is to say, it would have almost wiped out the amount of surplus available for dividends on the common stock.

In August of 1902, the St. Louis & San Francisco gave in exchange for the common and preferred its stock trust certificates at the rate of $100 thereof for each $100 share. The holding company has the option to retire these trust certificates at any time for $250 for each $100 common stock trust certficate. In 1905 a majority of the common stock certificates were exchanged for these certificates, in denominations of $1,000 each, representing four shares of common stock and bearing 4% interest.

The stock owned by the St. Louis & San Francisco is carried on its books at a valuation of $18,239,237 for the preferred and $9,321,550 for the common. It would seem as if this was an enormous over-valuation for these securities.

CHICAGO AND NORTH WESTERN RAILWAY.

A very pretty story is told by Frank Spearman in his book, "The Strategy of the Railroads," concerning an eastern railway engineer out hunting and lost in the wilds of northern Wisconsin, who suspicioned that he was not quite right in his senses as he broke from a dense forest upon a right of way of double-track 100 lb. heavy ballasted railway, and saw monstrous trains of cars go thundering by. The road in question was the Chicago and North Western and nothing can better illustrate its character.

It holds in the middle west something of the same position as the New York Central in the East. It is one of the oldest roads west of the Alleghenies, and has behind it a proud record of nearly fifty years of fine management and financial success.

History.

The beginnings of the North Western, as it is familiarly known, go back to 1836, when the Galena and Chicago Union was chartered. In 1850 the line from Chicago to Elgin was completed. The same people built the Chicago, Milwaukee and Fond du Lac. Both companies succumbed in the crash of 1857, and out of the wreck came the Chicago and North Western. The line had been carried through to the Mississippi in 1855, and to the Missouri by 1867. Since then the line has grown steadily, sometimes by absorption of smaller roads; usually, however, by new construction, until in 1906, it embraced a total of 7,453 miles of operated road, of which all but about one hundred miles was owned outright by the company. It had also 861 miles of additional main track.

Besides this, the North Western owns a working control in the Chicago, St. Paul, Minneapolis and Omaha, and the latter is a homogeneous part of the system. The 1,683 miles of the Omaha bring the total line operated up to 9,116 miles.

The North Western extends from Chicago westward through the rich corn fields of Iowa, and into eastern Nebraska, and westerly from Omaha and Sioux City to Caspar in Wyoming, and to Deadwood in the Black Hills. Another great trunk line

carries the road through southern Minnesota and South Dakota; yet another northward from Chicago through Wisconsin to the great iron districts of the Michigan peninsular. The subsidiary St. Paul and Omaha line carries the system to Duluth, to Minneapolis and St. Paul, and from thence to Sioux City and Omaha.

In August, 1906 the directors voted to double the capital stock of the road, increasing it to $200,000,000, so that it may be assumed that the aggressive policy of the North Western will in no ways be changed.

Ownership.

Though the North Western does not form a part of the New York Central system, it is spoken of always as a Vanderbilt line, and the ownership of the road is much the same. Whether or not the Vanderbilt interests own the absolute control of the stock, it is known they hold always a sufficient number of proxies to control the directorate. The latter includes W. K. Vanderbilt, F. W. Vanderbilt, H. McK. Twombly, Chauncey M. Depew, and Samuel F. Barger, all of the New York Central directorate; and James Stillman, also of the New York Central, but representing the Standard Oil interests: Albert Keep, long president of the road, and later chairman of the board; Marvin Hughitt, the present president, Chauncey Keep, of Chicago, and James C. Fargo, president of the American Express and the Merchants Transportation Company. All of these are closely associated with the Vanderbilt interests.

The balance of the board was made up of H. C. Frick, of Pittsburgh, and Oliver Ames and David P. Kimball, of Boston, Zenas Crane, of Dalton, Mass, Byron L. Smith and Cyrus H. McCormick of Chicago, and Frank Work of New York, also a director of the Lackawanna.

Messrs. Frick, Ames, Stillman and Hughitt are also directors of the Union Pacific. The executive committee shows very clearly the Vanderbilt control of the road. The stock of the Northwestern is extensively held, the road reporting to the Interstate Commerce Commission 4,109 shareholders in 1905.

Affiliations.

As one of the Vanderbilt lines, the North Western is practially the westerly end of the New York Central-Lake Shore system, and the working connections between these roads are

close. Almost equally close are the North Western's affiliations with the Union Pacific, though in this regard it divides with its rival, the Chicago, Milwaukee and St. Paul, which has latterly shown closer connections with the Union Pacific than formerly.

Should the Union Pacific gain practical control of the St. Paul, the North Western's close connection with the Union Pacific might be considerably altered, especially should the North Western be extended to the Pacific Coast.

Capitalization.

On June 30th, 1906, the capital account of the road stood as follows:

Common stock	$75,182,742
Preferred stock	22,395,120
Total	$97,577,862
Funded Debt	164,214,000
Total Capital	$261,791,862
Securities held (Inc. Co.'s own stocks & bonds in treasury.)	37,393,831
Approx. net capital	$224,398,031
Approx. net capitalization per mile	$30,257
Miles operated	7,428
Net earnings on net capital	10.5%
Stock on net capital	43%
Fixed Charges on total net income	39%
Factor of safety	61%

It will be seen that the capitalization per mile of the North Western, as compared with most eastern roads is very low. It is, for example, about one-fourth that of the New York Central.

The capitalization is not only low when reduced to a mileage basis, but also upon the basis of net earnings. The net earnings for 1906 showed 10.5% on the estimated net capitalization, which amount is about twice that of the New York Central.

Equities Owned.

The only extensive equity held by the North Western lies in its interest in the Chicago, St. Paul, Minneapolis and Omaha, owning $5,380,000 out of $11,259,911 preferred stock, and $9,-320,000 out of $18,558,953 of common stock. This amounts practically to absolute control. The $14,700,000 stock is carried on the books at $10,000,000. It is paying at the present time 7% and earning a considerable surplus over and above this sum. A solid 7% stock under such conditions, would represent a value of around $170 per share, so that this stock holding is readily worth two and a half times its book cost and represents an asset of perhaps $25,000,000.

The balance of the securities held by the North Western are mainly its own stocks and bonds, or those of subsidiary lines.

Style of Capitalization.

Even if we deduct from the Funded Debt the total valuation of the securities held in the treasury, the bonded debt predominates in the capitalization, the stock representing only 43% of the estimated net.

In 1906, Fixed Charges, however, consumed only 39% of the total net income, so that the margin of safety was equivalent to 61%. The amount of the preferred is comparatively not large, and the present 7% dividends only consume a little over 6% more of the net earnings, so that the margin of safety for the preferred was about 55%.

Increase of Capitalization.

The items of increase through six years have been as follows:

Year	Common Stock	Preferred Stock (7 per cent.)	Funded Debt	Total	Gross Earnings
1899–00	$41,448,365	$22,398,954	$137,187,500	$201,024,819	$42,950,805
1905–6	75,182,742	22,395,120	164,214,000	261,791,862	63,481,578

It will be seen that the common stock has been nearly doubled while there has been an increase of nearly thirty million

dollars in the Funded Debt, the capital increase amounting to 30%, while the earnings have increased 50%.

In January of 1907, $24,403 common stock of the $100,000,000 authorized in 1906, was sold to shareholders at par, to the extent of 25% of their holdings, the accruing "rights" selling at $15 to $18 per share.

Character of Traffic.

The reports of the North Western do not itemize the traffic beyond the sources of earnings. For 1906 passenger earnings represented 23% of gross, and freight earnings 72%.

Though generally ranked as chief of the "Grangers," in Wall Street parlance, the North Western has a very heavy tonnage of iron ore from the Michigan districts; its lumber traffic is also considerable, and it has a solid network of railways through the populous portions of Northern Illinois, Wisconsin, Iowa and southern Minnesota, covering all the important cities of that section, and ensuring it a large merchandise traffic. Its earnings therefore in no wise solely depend on the grain traffic. It goes without saying, however, that the lines in Iowa, Minnesota, Dakota and Nebraska are especially sensitive to the ups and downs of agriculture, and that a part of the great prosperity of the northwest has been due to the magnificent returns these western fields have made in recent years.

Stability of Earnings.

The earnings for a period of ten years have shown as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895-6	5,031	$33,488,761	$6,656
1896-7	5,031	30,977,243	6,157
1897-8	5,071	36,050,561	7,109
1898-9	5,077	38,016,314	7,489
1899-0	5,219	42,950,805	8,229
1900-1	5,507	43,098,587	7,826
1901-2	5,760	46,644,121	8,098
1902-3	6,332*	49,842,781	7,871
1903-4	7,404†	53,334,634	7,203
1904-5	7,408	55,745,275	7,525
1905-6	7,428	63,481,578	8,545

*Includes Fremont, Elkhorn & M. R. R. R.
†Thirteen months.

It will be seen that the average earnings per mile have increased scarcely at all since 1900, having reached a figure of $8,200 per mile in that year. The mileage earnings have shown in several years a considerable decrease from this figure. This is due, chiefly, it may be said, to the extension of the road into the new territory, and not to any decrease in traffic on the main system. It will be seen that the total gross earnings have risen steadily, and that especially in 1906 they increased phenomenally.

Maintenance.

The amount appropriated for maintenance of way and structures in 1906 was $6,864,000. This, reduced to a mileage basis, was smaller than at any time within the last six years. It amounted to only $924 a mile. This is certainly not high, and one will not look for concealed earnings in this item. Nevertheless a large portion of the North Western is local road, not exposed to the wear and tear of through traffic. Moreover, the freight train load of the North Western is considerably lower, for example, than that of the Burlington, so that while the outlay on this account does not seem very heavy, it was possibly adequate.

The outlay for equipment showed a heavy increase, amounting to $9,000,000, against $6,400,000 for the year before, and this in its turn was considerably larger than the years preceding. Reduced to a mileage basis, it amounted to $1,215 per mile, against $866 per mile for the year before. The report shows that $3,-755,000 of this amount went towards the purchase of 78 new locomotives, and 4,311 freight cars. This is a considerable item, and on many a road would have been charged to capital account.

Nevertheless, outside of this item, maintenance did not amount to more than $1,600 per locomotive, $500 per passenger car, and $40 per freight car. These charges look rather low as compared with the heavy outlay of many eastern roads, but it must be remembered that the traffic density of the North Western is not high and that its equipment is correspondingly less expensive to maintain.

It is known, moreover, that the North Western is in general a well maintained property, and the following table shows that the maintainance for the year was well up to the general level of the road's policy.

Year	Traffic Density	Maintenance per Mile Way	Equipment	Total
1900–1	672,129	$1,006	$700	$1,706
1901–2	715,701	1,058	828	1,886
1902–3	636,424	986	794	1,780
*1903–4	549,183	967	744	1,711
1904–5	579,434	1,008	866	1,874
1905–6	694,030	924	1,215	2,139
Average	640,983	$991	$858	$1,849
*Thirteen months. Extra main track, 861 miles.				
St. Paul.......	601,003	$929	$632	$1,561
Burlington....	580,024	1,104	1,032	2,136
Rock Island....	462,106	1,022	759	1,787

Improvements.

If, however, these charges represented the total outlay from earnings, the North Western would hardly possess the high standing which it does. As a matter of fact, in addition to the outlay of nearly $16,000,000 for maintenance, an additional $6,000,000 was set aside in 1906 from earnings for new construction. This policy has been pursued consistently by the road for a series of years, the items for seven years being as follows:

1899-0..............................	$4,542,042
1900-1..............................	4,169,526
1901-2..............................	4,697,055
1902-3..............................	5,013,418
1903-4..............................	4,000,000
1904-5..............................	4,600,000
1005-6..............................	6,000,000
	$33,022,041

This is a considerable sum. It compares, for example, with $12,223,185 appropriated from surplus by the St. Paul in the same period, and is one of the items that has contributed to the greath strength of the road.

Surplus.

Over and above its nominal Fixed Charges the road has for years earned a surplus amply sufficient to allow for the large appropriations for improvements noted above, and to pay hand-

some dividends besides. The surplus for the year of 1906 amounted to a full 10% on the $22,000,000 of preferred, and 16% on the amount of common stock outstanding at the end of the year. The preferred stock is entitled to non-cumulative dividends of 7%, and after the common has received 7% the preferred must receive 3% additional; above 10% both issues share alike. In the following table these peculiarities of distribution have been disregarded, and the percentage shown as earned on the common stock represents the entire amount over and above the actual dividends paid on the preferred. They serve to show the solidity of the preferred dividend, and indicate clearly, for example, that the full ten per cent. might have been paid on the preferred, had the appropriations for betterments been less liberal.

Year	Surplus	Dividends on preferred Stock	Per cent. earned on Common	Dividends paid on Common	Average Price Common
1900–1	$9,821,287	7	21.1	6	179
1901–2	10,574,826	8½	22	7	218
1902–3	10,389,261	8	17.8	7	177
1903–4	9,399,742	8	15.7	7	179
1904–5	10,417,822	8	17.8	7	222
1905–6	14,800,553	8	17.4	7	217

Dividend Record.

The North Western has a long and enviable record of dividend disbursements, such as hardly any other western road can show. Since the close of the long depression of 1873-77, the North Western has steadily paid dividends both on its preferred and its common. The record in full is as follows:

Year.	Preferred.	Common.
1876......	2½	..
1877......	3½	..
1878......	7	5
1879......	7	5
1880......	7	6
1881......	7	6
1882......	7¾	7
1883-4....	8	7
1885......	7½	6½
1886-93...	7	6

1894......	7	3
1895......	7	4
1896-9....	7	5
1900-1....	7	6
1902......	8¼	6 and 1% extra.
1903-6....	8	7

It will be seen that after the depression following 1893, the dividend on the common was cut to 3%, and to 4%, but it is to be remembered that it was a period when more than one-quarter of the railroad mileage of the country was in the hands of receivers.

Present Conditions.

The general balance sheet of June 30th, 1906, showed current assets:

Currents assets....................	$23,861,326
Current liabilities..................	9,531,401
Leaving a balance of..............	$14,329,925

Of the Current assets, $16,830,000 was in cash.

At the close of the year the balance to the credit of income account, as it is styled in the report, that is to say, the credit to profit and loss, amounted to $13,956,820, and the land income account represented $242,850 additional, making a total of $14,-199,671.

Investment Value.

Both the common and the preferred of the North Western have been among the highest priced stocks on the market. The common sold at $271 in 1902, at $249 in January of 1905, and at $240 in January of 1906. The preferred sold up to $274 in 1902, and $265 in 1905.

The common sold down to $153 in 1903, and the preferred to $190. These same stocks could have been bought as low as $84 for the common and $128 for the preferred in 1893; at the same figure for the common as late as 1896. Going yet farther back, it is of some interest to note that the common sold at $32 a share in 1877, and the preferred at $60 in 1878.

On the basis of five years payments at 8%, and with a large margin of safety, the preferred may be regarded as a solid 8% stock with good prospects of an increase in the dividend should

prosperity continue. The 7% dividend paid on the common through the last five years cannot be increased, as noted above, until the full 10% has been paid upon the preferred. But the amount of the preferred is not large, and the extra 2% over the present rate would require only an additional $446,000 per year.

From the point of view of railroad finance, no complaint could be made if this full dividend were paid. If to the $33,000,000 devoted to improvements in seven years, we add about $14,000,000 shown to credit of profit and loss, above all payments at the close of the fiscal year of 1906, we have a total of $47,000,000 which represents rather more than half again the amount which has been paid out in dividends in the same period; that is to say, for every dollar paid in dividends $1.50 has been put back into the property. This is very much better than the traditional "dollar for dividends, dollar for improvements," policy.

It should be understood that the very high prices attained in 1902 and 1905 were of a somewhat speculative nature, the first being due to the effort made to control the road in the open market, and the second to rumors that the control of the road was being purchased by the Union Pacific or Harriman interests.

On the other hand, the bare dividends did not represent the full return to the holders of the stocks. North Western "rights" have been very valuable and of frequent occurrence. In 1905-6 these rights amounted to from $18 to $22 per share, and again in 1906-7 to from $10 to $18. The policy of the road in this regard is liberal, and should further issues be made from the stock issues authorized in 1906, additional rights would probably accrue to the shareholders.

Under the weight of their repeated issues of rights, the common sold down in the Spring of 1907 to $138 per share, with rights off, or the equivalent of about $148. This was considerably below the figures reached in the very moderate recessions of 1905 and 1906. At something like these figures, it would present a fairly attractive investment, even though in case of a heavy slump, the stock were to sell lower. There are few solider securities on the market. The stock is closely held, and the sales usually small. The accruing rights would offset the added weight of new stocks issued, so that the investor will probably conclude that if bought somewhere around the low prices of 1907, that is, around $150 a share, it would represent a sound investment. Correspondingly, the preferred stock on an 8% basis, with

accruing rights, would be an equally attractive purchase at around $200 to $220 per share.

There are not lacking sound judges to predict very much higher prices for these stocks, but on the other hand, it is to be remembered that the road runs through states which are rather prone to railroad agitation, and the attempt to pay higher dividends in the face of less prosperous times might readily bring about increased taxation, or hampering legislation which could not fail to have its effect upon the earnings of the road and the prices of the stock.

CHICAGO, BURLINGTON AND QUINCY RAILROAD.

The "Burlington," as it is familiarly known, is one of the great roads of the interior northwest, operating a huge system extending from Chicago in a nearly westerly line through Iowa and Nebraska to connections with the Northern Pacific at Billings, Montana, with numerous branches carrying the line to St. Louis, to Kansas City, to Denver and to St. Paul.

Its territory is to all intents about the same as that of the North Western and the St. Paul. At the date of the 1906 report it was operating 8,927 miles, the average for the year being slightly below this, and its gross earnings amounted to over $74,000,000.

Formerly one of the independent lines, in 1901 control of the Burlington was purchased by the Hill-Morgan interests. For legal purposes the road was leased to the Chicago, Burlington and Quincy *Railway,* the entire stock of which is held jointly by the Great Northern and the Northern Pacific, these two roads issuing for the purpose $215,323,200 joint 4% collateral bonds, secured by the deposit of nearly all of the original Burlington stock. The latter was exchanged for these bonds on the basis of $200 per share, and of the $110,000,000 of Burlington stock, only about $3,000,000 is still outstanding. The purchase at the time was criticised on the ground that the price paid for the stock was exhorbitant. Mr. Hill's retort was that before many years were passed, the same people would be accusing him of having stolen the road. The extraordinary increase in the earnings of the Burlington in the intervening few years has gone far to justify Mr. Hill's prediction, and has certainly justified the purchase price paid.

For the year of 1901, the Burlington's gross earnings were $50,000,000, and the surplus shown for that year amounted to 7.3% on its capital stock. In 1906 the actual surplus of the road (a considerable part being concealed in maintenance) was un-

doubtedly above $18,000,000, equivalent to more than 17% on the capital stock. It was sufficient to pay the full interest on the collateral trust bonds and leave an outstanding equity for the two proprietary roads of perhaps four or five million dollars. This is certainly a very remarkable showing.

History.

The Burlington originated in what was known as the "Central Military Track Railroad Company," chartered in 1851, its present name being assumed in 1856. In 1875 the Burlington & Missouri River in Iowa was merged into the parent road. The Chicago, Burlington and Northern running to St. Paul, and other subsidiary lines were absorbed in 1899, and in 1900, the remaining leased lines were taken over.

The line traverses the great corn belt of Iowa and Nebraska, with a perfect network of roads through its especial territory, and its earnings are vitally dependent upon the prosperity of the farms.

Ownership.

In 1906 the directorate of the Railway company, the lessee of the road, included James J. Hill, then president of the Great Northern; James N. Hill, vice-president of the Northern Pacific; George B. Harris, president, and Darius Miller, vice-president of the Burlington railway; Charles E. Perkins, of Burlington, Ia., former president of the road; William P. Clough, fourth vice-president and general counsel of the Northern Securities Company; Amos T. French, vice-president of the Manhattan Trust Company, of New York; John S. Kennedy, vice-president of the Northern Securities Company; and George W. Perkins, of the firm of J. P. Morgan and Company, all four directors in the Northern Pacific; Samuel Thorne, of New York, also a director of the Great Northern; and George C. Clark, of New York.

The directorate of the original railroad company at the date of the last report included Robert Bacon, of the firm of J. P. Morgan and Company; George F. Baker, president of the First National Bank, of New York, also a director in the Northern Pacific as well as of the New York Central and other lines; George C. Clark, William P. Clough, New York; George B. Harris, Chicago; James J. Hill, St. Paul; James N. Hill, New York; John J. Mitchell, president of the Illinois Trust Company,

Chicago; Charles E. Perkins, Burlington; Samuel Thorne; and Norman B. Ream, also a director in the Erie and many other roads.

Capitalization.

On June 30th, 1906, the capital account stood as follows:

Capital stock	$110,839,100
Funded debt	174,172,000
Total Capital	$285,011,100
Securities held (inc. am't with S. F. Trust)	25,879,630
Approximate net capital	$259,131,470
Approx. net capital per mile	$29,128
Average miles operated	8,896
Net earnings on net capitalization	8.7%
Stock on net capitalization	42%
Fixed Charges on Total Net Income	45%
Factor of Safety	55%

A peculiarity of the Burlington is the large amount held by the trustees of sinking funds, which have not been usually considered in the capital estimates of other roads because of the general smallness of the items. To the close of the fiscal year of 1906, the Burlington had paid into its sinking fund nearly $26,000,000. Of this amount there were uncancelled bonds and cash awaiting investment held by the trustees of the sinking funds amounting to $16,276,242; this latter with "sundry investments" of $9,603,387, makes up the item included in Securities Held, in the above estimate.

It will be seen that the approximate capitalization of the road is only $29,128 per mile, as against $30,257 for the North Western, and $33,922 for the St. Paul.

The net earnings as given in the report amounted to 8.7% on the estimated net capitalization, but the net earnings shown were after perhaps five millions of excess maintenance charges, so that on a basis of normal maintenance this percentage would have been at least 25% higher or nearer 11%.

Similarly, Fixed Charges in 1906 consumed about 45% of the total net income, but this percentage would be very materially decreased, on a basis of usual maintenance. The actual Factor

of Safety, therefore, for the underlying securities is very much higher than the nominal 55% shown.

The treasury holdings of the Burlington are in the main bonds of its own system, in which there is no equity of importance to the road.

Increase of Capitalization.

From 1900, the year before the road came under its present ownership, to 1906, the increase of capitalization was as follows:

	Stock	Funded Debt	Total Cap.	Gross Earnings
1900	$98,447,500	$134,174,000	$232,581,500	$47,535,420
1906	110,839,100	174,172,000	285,311,100	74,146,670

Increase over six years: Total Capital, 22%; Gross Earnings, 56%.

Character of Traffic.

The Burlington's reports are very meagre and unsatisfactory and among other things the road does not itemise the character of its traffic. Freight earnings amount to more than two-thirds of the total; and passenger earnings make up less than 25%.

Stability of Earnings.

The remarkable increase in the earnings of the Burlington through a series of years shows as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	7,180	$35,526,186	$4,947
1897–8	7,180	42,800,162	5,961
1898–9	7,249	43,389,425	5,985
1899–0	7,546	47,535,420	6,286
1900–1	7,735	50,051,989	6,455
1901–2	8,109	53,795,246	6,634
1902–3	8,391	62,638,379	7,465
1903–4	8,799	65,228,192	7,413
1904–5	8,871	65,973,046	7,437
1905–6	8,896	74,146,690	8,335

It will be seen that in this period the gross earnings have more than doubled, and the earnings per mile have increased about 70%.

Maintenance.

Maintenance charges of the Burlington have habitually been very heavy, and have to a considerable extent exceeded those

of the North Western or the St. Paul. The items through a series of years stand as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	499,229	$1,119	$784	$1,903
1901–2	493,502	960	916	1,876
1902–3	592,641	1,084	907	1,991
1903–4	591,827	1,107	952	2,119
1904–5	590,819	1,025	1,103	2,128
1905–6	713,568	1,271	1,533	2,804
Average	580,024	$1,094	$1,032	$2,126
North Western.	640,983	$ 991	$858	$1,849
St. Paul.......	601,003	929	632	1,561
Rock Island . . .	462,106	1,022	759	1,781
Mo. Pac. (2 yrs.)	623,807	819	821	1,640

Miles extra track, 525

It will be seen that the average traffic density for these six years was slightly below the North Western or the St. Paul while the average expenditures for the Burlington have been about $300 per mile more than the North Western and nearly $600 over the St. Paul.

It will be noted, too, that there was an exceptionally heavy increase in the maintenance charges for 1906, the average expenditure of $2,804 per mile for that year for the Burlington comparing with $2,139 for the North Western, and $1,661 for the St. Paul.

The maintenance charges are not separately itemized so as to permit of analysis, but it is safe to say that normal maintenance is very much more represented by the figures for 1904-5 than in those of 1906. This difference amounted to between six and seven hundred dollars per mile at least. Taken at the lower figure, this on the 8,900 miles of road operated, would have meant a difference of more than $5,000,000 in the net earnings and income of the road, and would increase the surplus shown by that amount.

It is to be noted, however, that the Burlington does not set aside a special improvement fund, as do most other roads, its improvements being charged directly to operating expenses. Thus for example, in the seven years to 1906 the total appropriations for improvements on the North Western amounted to over $33,-000,000, an average of $4,500,000 per year. Here, as elsewhere, it will be seen that surplus and earnings are a good deal a matter

of bookkeeping and the nominal difference between different roads has often little basis in reality.

Surplus Earnings.

The nominal surplus shown for six years has stood as follows:

Year	Surplus	Surplus after all payments (Gt. N.-N.P. Equity)	Per Cent. Earned on Common	Dividend Paid on Common	Average Price
1900–1	$8,125,408	——	7.3	6	169
1901–2	10,083,011	$1,263,389	9.1	7	153
1902–3	13,326,108	4,491,256	12.1	7	177
1903–4	12,814,917	3,980,167	11.6	7	215
1904–5	13,804,778	4,969,925	12.5	7	——
1905–6	12,742,430	3,907,572	11.5	7	213

As already noted, if a matter of $5,000,000 maintenance exchange were added to the nominal surplus shown in 1906, the percentage indicated as actually earned on the common stock would have risen more than 40%.

Dividend Record.

Like the North Western, the St. Paul, and the Illinois Central, the Burlington has been a steady dividend payer for almost its entire history, and since 1873 the smallest dividend paid in any year was 4%. The record from 1873 is as follows:

1873-6............	10	yearly
1877..............	9	
1878..............	10½	
1879..............	8	
1880..............	9¼	and 20% stock.
1881-7............	8	yearly
1888..............	5	
1889..............	4	
1890..............	5	
1891..............	4½	
1892-3............	5	yearly
1894..............	4¾	
1895-7............	4	yearly
1898..............	5½	
1899-01...........	6	yearly
1901-6............	7	(under lease)

The Balance Sheet.

The balance sheet shown in the report is entitled "A composite balance sheet," and is of both the railway and the railroad companies. It is not made up in the usual form, and is not overly informing. It showed:

Cash		$14,423,240
The current liabilities were:		
Unpaid vouchers and payrolls	$6,030,905	
Coupon interest	2,344,692	
Sundry accounts balance.....	1,501,496	
		$9,877,093
Leaving a working balance of		$4,546,147

Great Northern and Northern Pacific Equity.

Nominally the undistributed surplus remaining after all charges, the payment of 7% dividends on the three millions of outstanding stock not deposited under the bonds, and the interest on the joint collateral bonds, amounted in 1906 to $3,907,572. The same item for the years since the purchase of the road by the Hill interests are shown in the tables of surplus earnings.

If, however, $5,300,000 were added to the nominal net surplus shown in 1906, the equity remaining for the two proprietary roads would be in excess of $9,000,000. It could be conservatively estimated at least half this or over $2,000,000 for each road.

It is understood that the controlling interests in the property have had in mind to transfer the Northern Pacific's holdings to the Great Northern. This might be accomplished by the retirement of the present collateral trust bonds and the purchase of the Northern Pacific's equity by the Great Northern. The collateral bonds may be retired at 105 and interest, which would require a total of about $226,000,000.

It is estimated that perhaps $20,000,000 has been earned by the Burlington since the purchase and turned back into the road for new equipment, etc. It is evident that if the equity of either road amounted to no more than half the estimated amount which this would represent in 1906, the value of this equity would still be considerable. If the half of this equity were estimated as worth no more than $2,000,000, and this were capitalized at say 7%, the value of the equity to either road would

be worth in the neighborhood of from $20,000,000 to $30,000,000; and should the Burlington's earnings continue to increase at the same rate as in the last ten years, this value would certainly be higher.

It is probable that $20,000,000 would not be an excessive estimate as to the actual profit which the purchase of the Burlington represents to either road to date. The transaction is one of the most remarkable in American railroad annals and is only equalled by the extraordinary rise in the value of the Northern Pacific stock purchased by the Union Pacific prior to the formation of the Northern Securities Company.

In the event of the purchase of the Northern Pacific's interest in the Burlington, the latter would probably pass directly under Hill management, and might be leased to the Great Northern. This would give the Great Northern a through line to Chicago (which it now practically enjoys) and the extension of the Burlington from Billings, Montana, to Great Falls or some point on the Great Northern line would provide a second through route for the Great Northern from Chicago to the Pacific Coast.

The outstanding amount of the old Burlington stock appears but seldom on the exchanges. Quotations since the purchase have ranged from a low point of $170 in 1903 to a high point of $250 in 1904. In 1906 the price ranged between $207 and $220. A considerable premium might be offered for the retirement of this stock, though any impelling reason for this seems slight. Barring this vague possibility, it is a stock with no other prospects than of earning its solid 7%; and is worth what any one wishes to pay for a gilt-edge security on that basis, and no more.

CHICAGO GREAT WESTERN RAILWAY.

The Chicago Great Western somewhat belies its name in that it is rather one of the minor roads reaching westward from Chicago to Omaha, with branches to St. Paul and Minneapolis towards the north, and to Kansas City towards the south. It is absolutely independent, being owned chiefly in England, and it has been a thorn in the flesh of middle western railroads by its free tendency to rate-cutting.

The Great Western represents a reorganization and change of name of the Chicago, St. Paul and Kansas City Railway, which operated a line spreading out like a three-cornered star from Oelwein, in northeastern Iowa, to St. Paul, Chicago and Kansas City. In 1901 a syndicate was formed to acquire the Mason City and Fort Dodge Railroad in the interest of the Great Western, and this small line was extended so as to join the Great Western, and also continued southwest from Fort Dodge to Council Bluffs, 133 miles. To this line, in 1904, the Great Western transferred 89 miles of road, which accounts for the reduction in the mileage of the road nominally operated by the Great Western. All the stock of the Mason City and Fort Dodge is owned by the Great Western, though the road reports separately.

Another subsidiary company is known as the Wisconsin, Minnesota and Pacific Railroad, operating a line from Mankato to Red Wing, in Minnesota, and thence to Winona, and to Osage, in Iowa. Its stock is entirely owned by the Great Western, and these three roads make up what is known as the Great Western *System* with the following mileage and earnings:

	Mileage.	Gross Earnings.	Net Earnings.
Chicago Great Western....	818	$8,573,148	$2,755,492
Mason City & Fort Dodge..	378	1,863,455	719,476
Wis., Minn. & Pacific.....	271	711,082	348,763
Totals..........	1,467	$11,147,685	$3,823,732

The Chicago Great Western is in more senses than one *sui generis,* and has practically no affiliations with other roads. It,

therefore, shares no advantages of any community of interest arrangements, and has been conducted as a thorough free lance.

Ownership.

The Great Western is almost entirely the creation of its president, Alpheus B. Stickney, of St. Paul, who despite the peculiarities of capitalization and policy of his road, is regarded as one of the ablest and most aggressive of western railroad managers; and he has been able to win and hold, in a singular degree, the confidence of the British shareholders, who are the main owners of the road's securities.

The directorate of the road includes President Stickney, Ansel Oppenheim, vice-president; Sam C. Stickney, vice-president and general manager; Frederick Weyerhaeuser, one of the lumber kings of the northwest; J. W. Lusk, R. C. Wright and M. D. Flower, all of St. Paul; T. H. Wheeler, vice-president of the National Storage Company, New York, and H. E. Fletcher, of Minneapolis. Mr. Weyerhaeuser is also a director in the Great Northern and other roads, but this implies no special affiliations.

Aside from the directorate, there is an English Finance Committee, made up of Howard Gilliat, chairman; Alexander F. Wallace, Edwin Waterhouse, and Sir Charles Tennant, Bart., all of London.

Capitalization.

On June 30th, 1906, the capital account of the road stood as follows:

Common stock	$44,464,545
5% Preferred stock "A"	11,336,900
4% Preferred stock "B"	23,103,842
Total	$78,905,287
Funded Debt:	
4% Debenture stock	$26,127,089
5% Gold notes	8,473,060
5% Equipment warrants	272,271
Total	$34,872,420
Nominal capital	$113,777,707
Rentals capit. at 4%	10,250,000
Approx. gross capitalization	$124,027,707

Securities held....................	39,216,754
Approx. net capitalization.....	$84,800,953
Approx. net capitalization per mile..	$103,668
Miles operated....................	818
Net earnings on net capital.......	3.0%
Stock on net capital...............	92%
Fixed Charges on total net income..	67%
Factor of Safety..................	33%

It will be seen from the above that the road is enormously over-capitalized, its figure of $105,400 per mile here estimated, standing against a similar figure of $30,250 per mile for the Chicago and North Western, and $33,900 per mile for the St. Paul, two of the great railway systems of the country.

The net earnings of the Great Western represent only 3.0% on the estimated net capitalization, as against 10.5% for the Chicago and North Western, 9.7% for the St. Paul.

It should here be explained that in the make-up of its report, the Chicago Great Western includes in its gross earnings, $227,000 of surplus earnings of its subsidiary lines. This item legitimately belongs under Other Income, and does not represent a part of the Gross Earnings of the Great Western's own line. It has, therefore, been deducted from the net earnings shown in the report, in consequence of which the net earnings become $2,520,000 instead of $2,-755,000, as shown in the report.

It is also to be noted that this same item of surplus earnings is counted twice in the table of earnings of the Great Western system given above, from the printed report of the company; and the figures given for the *system* are to the same extent misleading.

Style of Capitalization.

The over-capitalization, however, is wholly represented by stock, so that it really does no harm save, perchance, to the unreflecting investor. From the tabulation given above it will be seen that three classes of stock constitute 92% of the net estimated capitalization. On the $44,000,000 of common stock no dividends whatever have ever been paid, and none as yet on the preferred "B" stock, so that this $67,000,000 of stock, more than four-fifths of the total, represents merely potentialities.

More than this the company has no mortgage debt, the place of the usual bonded indebtedness being taken, after the English

fashion, by 4% debenture stock. The interest on this debenture stock is cumulative, but if it is defaulted the road cannot be thrown into the hands of a receiver. The interest simply becomes a charge against future earnings.

In addition to this debenture stock, the company had outstanding about eight and a half millions of gold notes, of which $48,000 is due in 1906; $117,000 in 1907; $3,342,000 in 1908; $4,069,000 in 1909, and the balance in the succeeding two years. In the estimate of Fixed Charges, the four per cent. paid on the Debentures has been included, but the payments due on the gold notes have not. Estimated in this wise, the Fixed Charges for 1906 consumed 67% of the Total Net Income, the $227,000 of surplus from the subsidiary lines being included in the latter. In this sense the Factor of Safety on the Debenture stock, rental obligations and so forth, becomes 33%. It should be borne in mind, however, that the debenture stock is a lien and not a mortgage, and that the debenture holders could not seize the road in case of defaulted interest.

Increase of Capitalization.

The change in the capital account in six years was as follows:

YEAR	Common Stock	Preferred Stock	Debenture Stock and Car Trusts	Total	Gross Earnings
1899–00	$21,308,145	"A" 11,303,900 "B" 7,468,090	$17,990,054	$58,070,189	$6,721,037
1905–06	44,464,545	"A" 11,336,900 "B" 23,103,842	34,873,420	113,777,707	8,573,141

Increase over six years: Nominal capital, 96%; gross earnings, 27%.

It will be seen that while the gross earnings have increased but slightly, the capitalization of the company has been more than doubled. A part of this large outpour of securities is offset by the purchase or exchange of the securities of subsidiary lines, but even when the latter have been deducted, it will be seen that the new issues of capital were hugely in excess of the increased earnings shown.

Equities Owned.

The chief holdings of the Chicago Great Western are as follows:

Mason City and Fort Dodge	
common stock.........	$19,205,400
preferred stock........	13,635,752
Wis., Minn. & Pacific stock.........	5,893,400
Total......................	$38,734,552

Under the terms of the agreement with the Mason City and Fort Dodge company, any surplus which remains after the payment of interest on the bonds, and dividend of 4% on the preferred stock, is to be held in trust by the parent company as a guarantee against the payment of future coupons. By the agreement with the Wis., Minn. and Pacific, all the earnings above 4% on the bonds go to the parent company. In 1906 a surplus of $137,196 was shown on the Mason City and Fort Dodge, but no payments were made upon the preferred stock. The cumulative surplus amounted on June 30, 1906, to $1,062,975.

The surplus shown by the Wis., Minn. and Pacific for the same year was $90,234, and the cumulative surplus $445,845. The year's surplus shown by these two companies amounted to $227,431, and was turned over to the parent company and included in the gross earnings of the latter, as already noted.

It will be seen that if this item of subsidiary surplus were taken as the return upon the $38,000,000 of stock held by the parent company, the interest so derived would be extremely small, less than 1%. As a matter of fact it simply goes to a guarantee fund. The Great Western's other holdings are very slight. The maintenance charges of the subsidiary roads were extremely light, amounting to only $371 per mile for maintenance upon the Mason City and Fort Dodge. It may be taken, therefore, that the Great Western's $38,000,000 of securities owned is simply a vague potentiality, and at the present time represents no very valuable asset.

Character of Traffic.

The report of the company does not itemize its tonnage, but the latter is known to be of a highly miscellaneous sort, so that the prosperity of the road depends simply upon that of the territory through which it runs and not upon any single industry. Its main item is undoubtedly grain. The earnings from freight were nearly $6,000,000; from passengers, nearly $2,000,000; and from other sources very small.

Stability of Traffic.

Despite its peculiar position among Western railroads, the mileage earnings of the Great Western have risen steadily from $5,000 per mile in 1896-7 to $10,400 per mile in 1906; that is to say, they have about doubled. This is, for example, a much heavier increase per mile than the Chicago and North Western, which rose only from $6,600 to $8,500 in the same period. The company's business has been built up in the face of solidly entrenched rivals, so that this remarkable increase speaks excellently for the management of the road. It shows that the weakness of its securities lies not in management nor in earnings, but in the heavy burden of overcapitalization.

YEAR	Miles Operated	Gross Earnings	Per Mile
1895–6	927	$4,709,821	$5,080
1896–7	928	4,680,860	5,044
1897–8	930	5,386,044	5,791
1898–9	930	5,867,739	6,309
1899–0	930	6,721,037	7,227
1900–1	930	7,013,862	7,541
1901–2	930	7,549,689	8,118
1902–3	930	7,823,191	8,412
1903–4	874	8,022,674	9,179
1904–5	818	7,377,711	9,015
1905–6	818	8,573,141	10,476

Maintenance.

The maintenance charges on the Great Western have been fairly heavy, as compared with its competitors in the same field, amounting in 1906 to $2,095 per mile, as against $2,139 per mile for the Chicago and North Western, which is considered one of the best managed roads in the country. It should be remembered, however, the latter has a considerable item of extra track while the Great Western has not. On the other hand, the Traffic Density of the Great Western is about half again as much as the North Western. It is fair to assume that there are no concealed earnings included in the Great Western's maintenance account. The items for six years were as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	896,558	$ 999	$704	$1,703
1901–2	865,175	1,031	812	1,843
1902–3	817,545	985	1,005	1,990
1903–4	921,309	990	1,170	2,160
1904–5	885,028	889	1,105	1,994
1905–6	1,065,647	894	1,201	2,095
Average	908,545	$964	$999	$1,963

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
C. & N. W....	640,983	$991	$858	$1,849
C. M. & St. P..	601,003	929	632	1,561
Burlington....	580,024	1,104	1,032	2,136

Improvements.

On the other hand, while the North Western and other lines in the same field have turned back into the improvement of the road large sums from the surplus, nothing of this sort is shown by the Great Western. The report for 1906 shows improvements to the amount of $959,163, but if this sum has been drawn from the earnings and not charged to capital account, this favorable fact is not mentioned.

Surplus Earnings.

The items of surplus for the same six years over and above the Fixed Charges and the payments on the 4% debenture stock, have been as follows:

Year	Surplus	Dividends on Preferred Stock "A"	Per cent. Earned on Common Stock	Average Price of Common
1900–1.......	$559,513	5	—	16
1901–2.......	589,645	5	—	24
1902–3.......	576,241	5	—	21
1903–4.......	142,663	5	—	19
1904–5.......	191,400	–	—	19
1905–6.......	695,326	5*	—	24

* See below.

Only one semi-annual payment was made on the preferred "A" in the fiscal year of 1906, though another payment charged to the year's earnings was made on October 1st.

It will be seen that in the years of 1904-5 the items of surplus showed a considerable drop, so that in 1905 the dividend on the preferred stock "A" had to be suspended.

The surplus for 1906 amounted to a full 5% on the preferred "A," and the balance represented about half of one per cent. on the $23,000,000 of preferred "B."

The Balance Sheet.

The balance sheet of June 30th, 1906, showed:

Supplies and accounts receivable	$2,068,259
Cash in hand	628,206
Total	$2,696,565
Accounts payable	1,842,795
Rentals and interest not yet due	234,886
Total	$2,077,681

leaving a balance of $618,884.

On the 4% debentures there was interest, due July 15th, 1906, amounting to $522,490.

Investment Value.

The 4% cumulative debenture stock, in the last four years, has ruled between $80 and $90 per share. At $83, the average price for 1906, the return to the investor is about 4¾%.

While the interest on this stock has been paid regularly through a series of years, it is evident from the record that the surplus over and above this payment has often fallen perilously near to zero, and that the interest has been paid only through very careful and economical management. It follows, therefore, that while the nominal Factor of Safety in 1906 amounted to 33%, it was very near nothing the two years preceding. An investment in this stock, therefore, cannot be said to possess any high degree of security.

On the other hand it is likely that through the operation of the new railroad laws, conditions will tend to become more stable, and, barring a very heavy setback of prosperity, the company should be able to maintain its payments on this stock. A rather speculative security, yielding less than 5%, can hardly be regarded as overly attractive.

The quotations on the preferred "A" stock rose to $90 per share in 1901-2 but fell to $47 in 1904, rising again to above $80 a share in 1906 and declining to $50 in April of 1907. If the security on the debenture stock is not very great, it follows that the security on the preferred "A" is still less. At $65 per share, the full 5% would yield the investor 7.7%, which is none too high, considering its speculative nature. It can scarcely be considered very attractive to cautious investors at anything above this figure. If the prosperity of the road should continue, the value of this stock may be somewhat enhanced, but not a great deal, since the dividend is limited and not cumulative.

Nothing has ever been paid on the $23,000,000 of the preferred "B" stock, and little or nothing has ever been earned. In order to pay a full 4% dividend on this stock, the surplus shown in 1906 would have to be more than doubled, and the surplus in 1906 was the largest the road has ever shown. It follows, therefore, that this stock has only a nominal value, and represents simply possibilities. The price was run up to $56 in the boom year of 1901; it fell as low as $20 per share in 1904. It represents a pure speculation. If purchased at its low price of 1907 of $15 per share, and held for a number of years, it might yield the investor a good return, but this would be only contingent upon the undiminished prosperity of the road, which would, in turn, depend upon the prosperity of the middle west.

If the twenty-three millions of preferred "B" is at the present time of only speculative value, it is difficult to see that the forty-four millions of common stock has any value at all. The 4% on the preferred "B" would require eight or nine hundred thousand dollars additional in surplus earnings above the $695,000 shown in 1906. Even a one per cent. dividend on the common stock would require $440,000 more, making a sum nearly three times the highest surplus the road has yet earned.

In view of this fact it is evident that quotations of $35 per share shown in 1902 had but one possible basis. This is the idea long entertained that the Great Western would be "bought up" by some one of its big rivals.

The necessity, though not perhaps the probability of such a purchase has been very considerably diminished by the passage of the new Rate Bill and it is notable that the highest price touched by the stock, even in the high prices of 1906, was $23 per

share. In June, 1906, the price had fallen to $16. It was $10 per share in May, 1907.

It is a stock which will probably fluctuate between rather wide extremes. Anyone who could put it away when the market in general had fallen to a very low level, would probably be able to dispose of his holding at a handsome increase when the market had grown up again. As to what would represent a low figure it is not easy to determine. If, when the market is at top levels, the price ruled around $18 a share, it is likely that with a heavy general slump, it would be somewhere around or below the low price of 1907.

The low quotations of May, 1907, were reached following the publication of the report of the Sundberg Investigating Committee of the Minnesota State Legislature, which severely criticised the capitalization of Minnesota railroads and especially of the Great Western. This was a part of the revived "granger" agitation which swept the western states in the winter of 1906-7.

CHICAGO, INDIANA AND SOUTHERN RAILROAD.

The Chicago, Indiana & Southern Railroad was organized in 1906 as a consolidation of the Indiana, Illinois & Iowa and the Indiana Harbor Railroad companies. At the time of the reorganization it acquired the entire capital stock of the Danville & Indiana Harbor Railroad. The company operates two lines, one extending from Indiana Harbor on Lake Michigan due south to Danville, Illinois, the other at right angles to this from South Bend, Indiana to Churchill in the Spring Valley coal fields of Illinois.

Jan 1, 1907, the company had outstanding:

Common stock	$15,000,000
Preferred	5,000,000
50-year 4% gold bonds	10,000,000
I. I. & I. first mtge. bonds	4,850,000
Total	$34,850,000

The Lake Shore in 1906 owned all of the preferred and $12,000,000 of the common and in addition $7,000,000 of the first mortgage bonds. The balance of the common stock ($3,000,000) was owned by the Michigan Central.

For the fiscal year of 1906 the company showed

Gross earnings	$2,332,731
Net earnings	480,923
Total net income	513,172
Fixed Charges	254,868
Surplus	258,304

The surplus shown was about double the surplus earnings of the constituent roads of the year previous, after somewhat increased maintenance charges. Fixed charges of 1906 were 50% of the total income and the balance remaining was sufficient to pay the 4% cumulative dividend on the preferred.

The road may be classed as a tributary to the Lake Shore and its chief officials are the same as those of the New York Central-Lake Shore system.

CHICAGO, INDIANAPOLIS AND LOUISVILLE RAILWAY.

(The Monon)

The Chicago, Indianapolis and Louisville, more generally known as the "Monon," from a town in Indiana, is a road leading southward from Chicago and from Michigan City, on Lake Michigan, through Indiana to Indianapolis and Louisville. It is jointly owned by the Louisville and Nashville and the Southern Railway, having been purchased for the purpose of providing a through route for these roads to Chicago. It is the old Louisville, New Albany and Chicago, which was sold under foreclosure in 1897.

The Chicago and Western Indiana, whose stock is owned by the Monon, is operated under a 999 years lease, which gives the Monon entrance into Chicago. The Monon owns also a one-third interest in the Kentucky and Indiana bridge at Louisville. It operates a total of 592 miles, chiefly in western Indiana.

Ownership.

In 1902 the Louisville and Nashville, with the Southern Railway, acquired 92½% of the common stock, and 77% of the preferred stock, on a basis of $78 a share for the common, and $90 a share for the preferred. The two roads issued for this purchase, fifty-year 4% collateral trust gold bonds, secured by the stock so acquired.

Management.

The officers of the road are William H. McDoel, president, Chicago; Morton F. Plant, vice-president, New York. The directorate includes Temple Bowdoin, Thomas W. Joyce, R. M. Galla-way, Charles Steele, Morton F. Plant, A. H. Gillard and Amos T. French, New York; William H. McDoel, Gilbert B. Shaw, E. C. Field, Chicago, and James Murdock, Lafayette, Ind. These are chiefly representatives of the two controlling roads.

Capitalization.

Common stock	$10,500,000
Preferred stock	5,000,000
Total stock	$15,500,000
Funded debt	14,942,000
Nominal capital	$30,442,000
Rentals capit. at 4%	6,370,000
Approx. gross capitalization	$36,812,000
Securities held	2,702,165
Approx. net capitalization	$34,109,835
Approx. net capitalization per mile	$57,618
Average miles operated	592
Net earnings on net capitalization	6.4%
Stock on net capitalization	45%
Fixed Charges on Total Net Income	50%
Factor of Safety	50%

Earnings and Dividends.

Of the earnings of the road, passenger traffic yielded 25% and of the freight traffic the largest single item was products of mines, 44%, of which bituminous coal formed 12%, and stone, sand and like articles, 27%.

The earnings of the road have increased steadily from $2,-902,000 in 1896-7, to $5,921,000 in 1906. The road showed a deficit in the second year of its reorganization. Since then, that is from 1898, it has shown a steadily increasing surplus which amounted to $1,197,636 in 1906. This was equivalent to 4% on the preferred and 9.5% on the common.

Dividends of 4%, to which the preferred is limited, have been paid since 1900. Dividends of 3% on the common were paid in 1905 and 1906, payments being semi-annual.

Maintenance has apparently been quite adequate, amounting to nearly $2,700 per mile in 1906. The credit to profit and loss at the close of the fiscal year of 1906, was $4,647,437.

Investment Value.

Since the road is so largely owned by the two roads dividing the controlling interest, the floating supply of the stock has no

other value save as an investment. The stock is very little traded in on the market. Since the preferred is limited to 4%, its value may be estimated at from $70 to $90 per share; that is to say, at the price of a fairly solid 4% stock.

The common may readily receive larger dividends than it does, earning upwards of 9%.

As the northern outlet of the two important systems, the earnings should steadily increase as in the past ten years, and if no recession in business occurs, the stock might readily be put on a 5 or 6% basis. It has not been quoted on the exchange for some years. On a 3% basis, with prospects of an increase, it might readily sell at $60 or $80 per share or more. The stock is comfortably earning a 5% dividend, and if placed on this basis eventually would be worth above $100 per share.

The undistributed equity of the two controlling roads amounted in 1906 to upwards of half a million dollars.

CHICAGO, MILWAUKEE AND ST. PAUL RAILWAY.

"St. Paul" as it is known in Street parlance, maintains in almost every notable characteristic a strict parallel with the North Western. The two roads occupy almost identically the same territory, both are among the best managed roads of the country; the securities of both have long been prized by investors. There is this difference, however, that whereas the North Western is distinctly one of the Vanderbilt lines, the St. Paul has maintained a position of exceptional independence. Latterly, however, it has seemed to draw into closer affiliations with the Union Pacific and the interests dominant in the two roads are known to have very close relations.

Recently the St. Paul has come into special prominence through its announced intention to extend its line to the Pacific coast. In spite of the fact that this intention has been officially announced and a considerable part of the extension contracted for, the report of 1906 contained not a word upon the subject.

History.

The old Milwaukee and St. Paul Railroad was organized in war times, when it was an open question as to whether Chicago or Milwaukee would be the chief port of Lake Michigan. The aim of the company was to extend the road into Minnesota and the Dakotas, and to develop these regions, then a wilderness. St. Paul at the time was an obscure hamlet and Minneapolis was unknown. The purchase of the St. Paul and Chicago, effected after the organization, gave the road a through line from Milwaukee to St. Paul, and in 1874 the extension from Milwaukee to Chicago completed a continuous road between Chicago and the Minnesota capital.

Since then the road has been steadily extended through Iowa, Minnesota, and into the Dakotas, according to the original intention. The absorption of the Milwaukee and Northern car-

ried the road into the iron districts of peninsular Michigan, and through other extensions it reaches to Omaha and to Kansas City on the south, to Fargo and other points in North Dakota on the north. The total operated mileage in 1906 was 6,961, almost the entire length of which was owned by the company outright. The extensions of the line westward from Chamberlain, South Dakota, now under way will carry the line to Rapid City in the Black Hills; and the 800 miles of the Pacific Coast extension on which construction was begun from Evarts, on the Missouri River, would reach into Montana. The company is said to own valuable terminals in Tacoma and Seattle, on Puget Sound.

Ownership.

The St. Paul had never, until latterly, been under the domination of any single interest, and the stock is widely held. In 1905, the company reported 5,832 stockholders. It is evident, however, that by 1906 Standard Oil interests had obtained practical control; it is certain that in conjunction with representatives of the George Smith Estate, this control is absolute.

In the directorate, Standard Oil interests are directly represented by William Rockefeller, Henry H. Rogers and Charles W. Harkness. Peter Geddes and Herman Le Roy represent their own holdings and those of the Smith estate. In 1906, Mr. Smith's place on the board was taken by his business representative, Herman S. Le Roy, a New York attorney. The other directors were Roswell Miller, chairman of the board; A. J. Earling, president; Frank S. Bond, former vice president; John A. Stewart; Joseph Milbank, of New York; J. Ogden Armour, Chicago; Frederick Layton, Milwaukee; Messrs. Rogers and Earling are also in the directorate of the Union Pacific, and in close affiliation with them is William G. Rockefeller, also a director, and son of William Rockefeller. William Rockefeller is well-known as a prominent director in the New York Central system, the Delaware and Lackawanna and other roads. John A. Stewart is chairman of the Board of Directors of the United States Trust Company, in which Standard Oil interests are prominently represented. Joseph Milbank is a capitalist, and legatee of the Milbank estate. J. Ogden Armour is the present head of the extensive Armour interests of Chicago, and Frederick Layton is a prominent capitalist of Milwaukee.

In the executive committee Standard Oil interests predominate.

Beyond its close connection with the Union Pacific, the St. Paul has no especial affiliations, and it is not a holding company, having practically no interests in other roads.

Capitalization.

On June 30th, 1906, the capital account stood as follows:

Common stock	$58,183,900
Preferred stock	49,654,400
Total stock	$107,838,300
Funded debt	121,849,500
Nominal capital	$229,687,800
Rentals capit. at 4%	10,525,000
Approximate gross capitalization	$240,212,800
Unsold bonds in treasury	4,077,000
Approx. net capitalization	$236,135,800
Approx. net capital per mile	$33,922
Average miles operated	6,961
Net earnings on net capitaliation	9.7%
Stock on net capitalization	45%
Fixed Charges on Total Net Income	32%
Factor of Safety	68%

The rentals paid are small, adding but little to the estimated capitalization of the company. On the other hand the company has no securities of other roads, and the gross capitalization is to be reduced only by the amount of unsold bonds held in the treasury.

It will be seen that the average capitalization per mile is very low, and as far back as 1901, President Miller stated in his annual report that the road could not be duplicated for its then existing capitalization, which was about the same per mile as now. Its $33,922 of capital per mile compares with $30,252, for the Chicago and North Western. The capitalization of the road

as determined by earnings is about the same, the 9.7% for the St. Paul comparing with 10.5% for the Northwestern.

On June 30, 1906, the stock of the road represented 45% of the estimated net capitalization, as compared with 43% for the North Western. The Fixed Charges consumed 32% of the Total Net Income, as compared with 39% for the North Western. The Factor of Safety on its securities for the St. Paul therefore was slightly higher than that of its chief rival.

As already stated, the St. Paul has no equities in other companies.

Increase of Capitalization.

In the six years from 1900, the capital and earnings of the St. Paul increased as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1899–00	$47,146,600	$40,454,900	$122,256,000	$209,857,500	$41,884,692
1905–06	58,183,900	49,654,400	121,849,500	229,687,800	55,423,052

Net increase over six years: Nominal capital, 10%; gross earnings, 32%.

In 1906, $24,802,809 of new common stock was sold to shareholders at par, to the extent of 23% of their holdings, the resulting rights therefrom averaging from $15 to $18 per share. Again towards the close of the year $33,164,300 new common stock and $66,328,600 new preferred were offered to the shareholders at par, to the extent of 25 and 50%, respectively, of their total holdings, accruing rights on this issue selling at from $31 to $35 per share.

The result of these issues was to increase the amount of common stock from $58,000,000 to $115,000,000, and the preferred from a little under $50,000,000 to the same as the common. Payments, however, on the latter issue were distributed over a period of two years and more so that while interest would be paid on the amount of the subscriptions, the road would not meet full dividends on this new stock until 1909.

Character of Traffic.

The St. Paul is one of the great "grangers," and farm products make up the chief items of its tonnage. Products of the

latter in 1906 represented 23%, and of animals, 6.3%, or a total of nearly 30%. Products of mines made up 28.5%, of which the chief item was bituminous coal. Lumber made up 14%, manufactures and miscellaneous the balance. This is a wide and very even distribution of traffic, and means that the prosperity of the road is dependent simply on the general prosperity of its territory, and not upon any single industry. It is evident, however, that its territory is distinctly a farming section, and that the earnings of the road are, at bottom, dependent upon the yield of the fields.

Passenger earnings represented 20% of the gross earnings of the company in 1906.

Stability of Earnings.

The mileage operated has not increased in ten years as rapidly as might have been expected, but a very considerable increase will take place in case the Pacific extension is carried out.

The gross earnings per mile have risen from $5,281 in 1895-6, to $7,961 in 1905-6, an increase of very closely 50%. This increase has been very steady, showing practically no setbacks, but it was especially large in the year of 1906. The full table follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6........	6,188	$32,681,829	$5,281
1896–7........	6,191	30,486,768	4,923
1897–8........	6,191	34,189,664	5,522
1898–9........	6,191	38,310,632	6,187
1899–0........	6,347	41,884,692	6,851
1900–1........	6,512	42,369,013	6,506
1901–2........	6,605	45,613,125	6,906
1902–3........	6,647	47,662,738	7,171
1903–4........	6,829	48,330,335	7,077
1904–5........	6,908	49,884,114	7,221
1905–6........	6,961	55,423,052	7,961

The steady increase in the earnings has been accomplished in the face of a steady reduction in the average rate per ton mile received from freight, the average of the road being:

1877	2.08 cents.
1887	1.09
1897	1.00
1906	.86

Maintenance.

The maintenance charges for the St. Paul, compared with eastern roads look small. They average only a little over $900 for way, and a little over $600 for the equipment. They are considerably smaller, for example, than the Chicago and North Western, where the average for way is $991 and for equipment $858. The items for six years are as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	558,965	$999	$464	$1,463
1901–2	604,095	1,092	509	1,601
1902–3	605,048	1,105	585	1,690
1903–4	576,717	750	681	1,431
1904–5	590,824	773	750	1,523
1905–6	670,373	857	804	1,661
Average	601,003	$929	$632	$1,561

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
C. & N. W...	640,983	$ 991	$ 858	$1,849
C., B. & Q...	580,024	1,104	1,032	2,136
Rock Island..	462,106	1,022	759	1,787

On a traffic density of 600,000 ton-miles per mile of road operated, a total maintenance of from $1,500 to $1,600 per mile does not seem very liberal. Had the figure been equal to that of the North Western for 1906, this would have added $500 per mile to the St. Paul's maintenance charges for that year, which on a total of nearly 7,000 miles would have entailed an additional expenditure of $3,500,000. It is evident that on such a scale of expenditure, the surplus shown would have been much smaller than it was.

In the report for 1906, the average of cost for repairs was stated at $1,438 per locomotive; $667 per passenger car; and $46 for freight cars.

Merely as an instance of the wear and tear losses to which a large railway is subjected, the company's report for 1906 states that during the year, 444 cars belonging to the company were destroyed by wreck or fire on its own and other roads, and that 3,662 old freight cars unfit for economical service, and 30 small

locomotives were dropped from the inventory of equipment. In addition to this, the inventory at the close of 1905 showed a shortage of 384 cars and a sum sufficient to replace them was charged to operating expenses. At the close of 1906 there was a shortage of 246 cars, and one locomotive.

Improvements.

The maintenance charges of the St. Paul have been considerably below those of the North Western; likewise the sums set aside from surplus earnings have been considerably less, the items for improvements for seven years being as follows:

Year.	Renewal and Improvement Fund.	Addition to Property.
1899-0	$3,025,305	
1900-1	2,296,256	
1901-2	2,245,000	
1902-3	1,105,000	
1903-4		$707,575
1904-5		619,960
1905-6	1,511,758	712,331
Total	$12,223,185	

This sum compares with $33,002,000 set aside by the North Western within the same period.

In addition to the above sums the report for 1906 shows a net of $2,540,466 set aside for the replacement of freight cars, dropped from the inventory. This amount would bring the total set aside from the surplus earnings for the year up to $4,765,000, and this sum added to the charges for regular maintenance, would bring the total maintenance up to $15,283,000, or $2,195 per mile, that is to say it would increase the nominal sum devoted to maintenance by 50%.

Surplus Earnings.

The surplus earnings shown below are the total sums available for dividends and improvements after payment of Fixed Charges, and before the sums set aside as in the table above, have been deducted.

For example, from the nominal surplus shown for 1906, the amount of $4,765,000 should be deducted to show the net surplus available for dividends. This would reduce the percentage shown

as earned on common by one-third. The table for a series of years follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$10,476,414	7	13.1	6	139
1901–2	12,115,458	7	15.2	7	165
1902–3	11,578,260	7	14.2	7	175
1903–4	11,425,976	7	13.8	7	152
1904–5	12,478,788	7	15.5	7	151
1905–6	14,905,318	7	19.7	7	191

The column of "Per cent. earned on Common," does not represent the amount actually available for dividends on the common stock, since after 7% has been paid on both the common and preferred, the two issues share alike. So for example, after seven per cent. was paid on both stocks the balance of surplus would have been equivalent, for 1906, to very nearly 7% more, on both the common and preferred (6.9), but if from this balance of surplus, were deducted $4,765,000 devoted to improvements, the remainder would be equal to only about 2½% on the two classes of stock.

Presuming that these appropriations would not have been made if they had not been needed, this latter figure is of interest as indicating the margin nominally available for an increase of dividends on either class of stock.

Dividend Record.

As a dividend earner, the St. Paul has a record surpassed by no western railway. With the single exception of the year of 1875, for 35 years the dividend has been paid upon the preferred stock continuously, though in the early days, in one or two years, these dividends were paid in bonds.

There is a provision as to the preferred stock that its dividends are cumulative to the extent that they are earned, and not otherwise. This accounts for the peculiarities of some of the earlier dividend payments.

The road suffered in the years from 1889 to 1891, and in these three years, the dividend on the common was suspended. Since 1892 a dividend has been paid continuously. The full record is as follows:

Years	Preferred	Common
1870	7 % cash and 3% scrip	3% cash and 7% scrip
1871	7 % "	7% "
1872–3	7 % "	
1874	7 % bonds	
1875		
1876	3½% cash and 14% bonds	
1877	3½% "	
1878	10½% "	
1879	7% cash	2½% cash
1880–4	7% "	7% "
1885	7% "	4% "
1886–7	7% "	5% "
1888	6% "	2½% "
1889	7% "	
1890–1	7% "	
1892	7% "	2% "
1893–4	7% "	4% "
1895	7% "	2% "
1896	7% "	4% "
1897–00	7% "	5% "
1901	7% "	6% "
1902–6	7% "	7% "

The Balance Sheet.

The balance sheet at the end of June, 1906, showed that the company was quite decidedly in need of working capital. The current assets amounted to $9,566,797; the current liabilities to $16,440,706.

This left an adverse balance of $6,873,989. Of the current liabilities, however, $2,719,962 was interest accrued and not yet payable. The chief item was bills payable, $6,850,000.

The item of cash showed $5,276,888. The company's need of cash capital was later supplied by the sale of stock, as noted above.

The credit to profit and loss, itemized as Income Account in the report, was $33,789,997.

The St. Paul Extension.

The most important event in the history of the St. Paul for many years was the determination of its directors to extend the line to the Pacific coast. The route chosen is to the outside view quite inexplicable. Between the Union Pacific and the Northern Pacific lines there is a wide belt of territory, from two to three hundred miles broad, which is crossed by no east or west road, unless the diagonal path of the Oregon Shortline be considered.

A road pursuing something of a middle course through this belt would tap a country rich in coal, oil and minerals, and have a wide field to itself. Instead of building through this belt, the St. Paul is extending westward from its most northerly western terminal, at Evarts on the Missouri river. It strikes directly for the Yellowstone River, near Miles City, and from this point to the coast to all intents it doubles the route of the Northern Pacific, crossing and recrossing the tracks of that road, the two lines rarely lying more than 40 or 50 miles apart and for long stretches side by side.

The St. Paul's extension will be an expensive piece of road to build; its cost is estimated by the St. Paul officials as something like $50,000 per mile and it seems likely to be more, rather than less than this. It is being built at a time when labor and material are at the highest point in 15 years, its line will be slightly longer than the Great Northern route from Chicago to the Pacific and longer, too, than the Northern Pacific's route, when the Helena cut-off is completed; it will cross four mountain ranges as against two for the Great Northern, and two for the Northern Pacific when a cut out on that road in the Rockies is completed.

In brief, neither as to grades, length of line nor cost does it present any advantages over its rivals; rather the reverse. When the Great Northern's water grade line from Spokane to Portland is built, that road will be able to carry freight at a lower rate than any other transcontinental line, this construction being a part of the scheme outlined in President Hill's boast that before the Panama Canal is completed, he would have a line from the Great Lakes to the Pacific able to carry freight at such rates that lily pads would be growing in the canal. This is the sort of competition that the St. Paul extension must meet and which to the outside view, it will be in no position to meet.

It is true that the St. Paul's capitalization is very low; and even with the addition of 1,500 miles of road costing $50,000, or $60,000 per mile, it will be relatively low. It will be lower than the Union Pacific or the Northern Pacific, but on the other hand, it will be met by the almost equally low capitalization of the Great Northern, with apparently higher haulage costs. It is true that the earnings of the Great Northern and of the Northern Pacific have been enormous. Likewise that there is an immense and growing business from the Puget Sound ports, eastward. But

the Northern Pacific, and especially the Great Northern have been for a number of years endeavoring to put themselves in the best possible shape to take care of this business, and the Union Pacific is now entering the same field and will soon be ready, bidding for its share of this traffic. It is equally true that the same interests which now control the St. Paul practically dominate the copper industry which enters in Montana and that a large and growing traffic can probably be turned to the St. Paul when it reaches these fields.

But with all these considerations, when the new route of the St. Paul is followed upon the map it bears resemblance to nothing so much as the West Shore-Nickel Plate paralleling of the Vanderbilt lines from New York to Chicago in the eighties. It is well known that the controlling interests of the St. Paul are now closely associated with the controlling interests of the Union Pacific, and the latter are engaged in lively rivalry with the Hill lines. It is impossible to suppose that so shrewd and conservative a management as that of the St. Paul should have entered upon this enterprise without being fully convinced of its soundness, and yet to the outside view it bears much more the appearance of a weapon or a club than a business enterprise standing on its own feet.

It would be absurd, however, to suppose that this extension could seriously cripple so rich and prosperous a road as the St. Paul. The new line is being built by stock issues rather than by bonds and undoubtedly a large traffic can be turned through it which would be impossible if it were an independent line. The percentage of net income consumed by fixed charges on the St. Paul is exceptionally low, so that even if the extension were to justify the most pessimistic criticisms it would still in no wise affect the value of the funded securities.

Investment Value.

But undoubtedly the St. Paul's extension has a very material bearing upon the future of the stock values of the road and should the work of construction be pressed, the new stock issues required for this work will weigh rather heavily on the market price. Probably there are many who would be in no wise surprised if the extension were to stop in Montana and not be carried forward for at least some years to come.

Meanwhile the significant fact which the investor in St. Paul must consider is that the capital stock in a single year has been increased from 107 to about 230 million dollars; that is, it has been more than doubled. As already noted, in the issuance of this stock, rights have accrued to the shareholders amounting to from $45 to $50 per share, and in considering the value of St. Paul, common and preferred, this amount is more or less to be added to the market price.

Following this heavy issue of new stock, in the general recession of prices in the spring of 1907, St. Paul preferred sold down to $145 per share and the common to $122 per share. This was equivalent, rights included, to about $190 and $167 on these stocks, which compares with a quotation of $160 per share for the preferred and $147 for the common in the very moderate slump in the spring of 1906. It is evident that on a prolonged recession of prices these stocks might sell very much lower. At the low level of 1903-4, the preferred sold down to $168 and the common to $133. But how heavily the new issues will weight the stock would be only the merest guess. Obviously the pivotal question is as to whether, if the St. Paul goes on with this new work of construction, it can continue comfortably paying its 7% dividends.

It has already been pointed out that even in the prosperous year of 1906, if St. Paul maintenance had been up to the level of the North Western, to say nothing of the Burlington, the margin remaining over after the payment of the 7% dividends was not large. In the new issue of stock, the amount of preferred was rather heavier than that of the common, $66,000,000 of preferred against $57,000,000 of common. But it is not at all likely that even a very serious business depression would impair the security of the dividend on the preferred. This stock has now received its 7% dividends continuously for eighteen years. With the prospect of an increase in the dividend rate and further "rights" cut out, this stock would tend to sell more to the level of a solid 7% security; that is, at an average around $150 to $170 per share.

St. Paul common, is a much more speculative commodity. As one of the old "market leaders" it has tended to fluctuate rather violently. It is what is known as a "volatile" stock. Obviously after the heavy issues of 1906, with the consequent cash dividends equivalent to about $50 per share, the stock would tend to sell at considerably lower levels than for several years

previous; that is, if there were no other considerations. There is such a consideration, however, and this is that the St. Paul is a very valuable property, alike in itself and from a strategic point of view. At least before the new issues, control of St. Paul would readily have sold at very considerably above $200 per share. It is not in the least likely that the present interests in control would ever allow this valuable asset to be slipped from under them, and that is why the floating supply of St. Paul, so long as the present rivalry between the Hill interests and the Union Pacific interests continues, is likely to be relatively small. This means that it would hardly go to as low a level as it otherwise might, even in a general slump, and that on the other hand, being so easily subject to manipulation, it is likely to show much higher prices than its intrinsic value would justify.

There seems no reason why St. Paul on a 7% basis should sell at a higher figure than, let us say, Pennsylvania, and if Pennsylvania, on 1906-7 levels could sell below 120, St. Paul common might readily do the same. Purchased and laid away at such figures as this it might, under the conditions outlined, readily show a large profit to its holder, always provided that its earnings continue to justify the payment of its present dividend.

CHICAGO, ST. PAUL, MINNEAPOLIS AND OMAHA RAILWAY.

The "Omaha," as it is familiarly known, is in reality simply a part of the Chicago and North Western system, and since 1883 has been practically operated as a part of the larger road. It, however, reports separately.

The road was formed through the consolidation in 1880, of the Chicago, St. Paul and Minneapolis, the St. Paul and Sioux City, and the North Wisconsin railroads. It operates 1,693 miles of road, running in a southwesterly direction from Ashland and Duluth on Lake Superior through St. Paul and Minneapolis, to Sioux City and into Nebraska.

Of its $29,818,864 of capital stock, $14,700,000 is owned by the Chicago and North Western. This is almost an even half, and with a few shares owned by the directors, makes up a controlling interest.

Nine of its thirteen directors come from the North Western board. The other four include Eugene E. Osborn, vice-president and general secretary, New York, Thomas Wilson, general counsel, St. Paul; John M. Whitman, Chicago; and John A. Humbird, St. Paul.

The executive committee is made up entirely in the Vanderbilt interest, four of its seven members being Vanderbilt directors, and likewise belonging to the New York Central and Lake Shore boards.

In 1905, the Omaha reported 1,045 stockholders.

Capitalization.

The capital account of the road on June 30, 1906, stood as follows:

Common stock outstanding	$18,558,953
Preferred stock outstanding	11,259,911
Total stock	$29,818,864

Bonded Debt (net)	$27,096,800
Nominal capital	$56,915,664
Rentals cap. at 4%	3,087,500
Approximate gross capitalization	$60,003,164
Securities held	362,752
Approx. net capitalization	$59,640,412
Approx. net capital. per mile	$35,227
Average miles operated	1,693
Net earnings on net capitalization	8.8%
Stock on net capitalization	50%
Fixed Charges on Total Net Income	42%
Factor of Safety	58%

The capitalization per mile of road is slightly higher than that of the North Western, and the net earnings show a slightly lower percentage of the estimated net capitalization, the 8.8% on the Omaha comparing with 10.5% on the North Western, and with 9.7% on the St. Paul.

The Fixed Charges consume only 42% of the total net income, leaving a wide margin of safety for the securities of the road.

The amount of preferred stock is not large, so that the margin of safety on the dividends on this stock is also ample.

The company holds in its treasury $2,844,000 of common stock, $1,386,000 of preferred, and $805,000 of its own bonds. These have not been included in the estimate of capitalization. Likewise the treasury holds $50,000 of Sault Ste. Marie and Southwestern first mortgage bonds, and $1,500,000 of Superior Short Line Railway bonds.

As these are carried as liabilities in the balance sheet, they have likewise not been included in the securities held or deducted from the estimated capitalization.

The balance of the company's holdings are very small and represent no equities worth mentioning.

Since the control of the road was obtained by the North Western in 1882, its capitalization has remained practically stationary, and in fifteen years the funded debt has slightly increased.

Stability of Earnings.

In the six years from 1900, the gross earnings increased 25%, and the earnings per mile about 15%, as the following table indicates:

Year	Miles Operated	Gross Earnings	Per Mile
1900	1,544	$10,342,900	$6,698
1901	1,574	11,196,404	7,113
1902	1,605	11,907,525	7,240
1903	1,660	12,055,271	7,261
1904-5	1,683	11,926,000	7,087
1905-6	1,693	12,943,750	7,645

Maintenance.

The traffic density of the road is considerably under that of the North Western, but its average for maintenance of way has been higher than that of the larger road. The average expenditure for equipment has been somewhat lower than the North Western's, but the total for maintenance per mile has been larger. The items follow:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900	489,466	$1,228	$592	$1,820
1901	522,963	1,269	680	1,949
1902	529,374	1,207	657	1,864
1903	538,628	1,010	691	1,701
1904–5	520,031	821	685	1,506
1905–6	517,077	959	714	1,673
Average	519,589	$1,083	$669	$1,752

Mileage extra track, 42.

Improvements.

In addition to the regular appropriations for maintenance, the road has followed the usual Vanderbilt custom of setting aside funds from the surplus earnings for improvements. These, in the last seven years, have averaged slightly above $500,000 per year. In 1906 the sum set aside was $600,000 as against $400,000 in 1905.

Surplus.

As part of a prosperous system, the road has been able to show fairly liberal maintenance charges, and still have a comfortable surplus for the payment of its dividends. The following shows the annual surplus before the improvement fund has been charged off.

Year	Surplus	Dividends Paid on Preferred	Per Cent. Earned on Common	Dividends Paid on Common	Average Price
1901	$2,729,252	7	10.5	5	136
1902	2,918,336	7	11.5	6	155
1903	2,751,726	7	10.6	6	139
1904–5*	2,641,130	7	10	7	147
1905–6	3,018,140	7	....	7	188

*Fiscal year charged.

Dividend Record.

The dividend record is as follows:

Year.	Preferred.	Common.
1881-4....	7	
1885......	4¾	
1886-8....	6	
1889......	3	
1890-1....	4	
1892......	6½	
1893-6....	—	
1897-8....	7	2
1899......	7	3½
1900-1....	7	5
1902-4....	7	6
1905-6....	7	7

The Balance Sheet.

At the close of the fiscal year of 1906, the balance sheet showed:

Current assets	$2,270,405
Current liabilities	3,022,215
Leaving an adverse balance of	$751,810

To this should be added $897,819 balance of improvement funds which was not apparently represented in the quick assets. The same is true of the $3,034,489 to credit of Profit and Loss, and the Land Income Account. The road was therefore in need of working capital.

Investment Value.

The preferred stock has a prior right to dividends up to 7%, but the common cannot receive more than is paid on the preferred; in other words, above 7% the two stocks share alike.

The 7% on the preferred, after having been paid in the prosperous years of the early eighties, was cut down until, in 1893-6, it disappeared entirely. It was resumed in 1897 and since paid continuously; that is to say, for eight years. There seems to be every prospect for its continuance indefinitely. The amount of the preferred is small, and the amount earned on the common over the preferred dividends for five or six years has averaged above 10%. This has left a very ample margin for the preferred, and it may therefore be regarded as one of the solidest 7% stocks on the market. Prospects disregarded, with money at 4%, it is entitled to sell at around $175 per share. As a matter of fact it has sold considerably above this, rising to $230 per share in the year 1905. It is fairly clear that this high price was based upon prospects for an increased dividend. It is equally clear from the returns, that no such increase was immediately in view. Even in the exceptionally prosperous year of 1906, the net surplus, after charging off the improvement fund, and dividends, amounted to only $331,000, which was equivalent to only a little over one per cent, on the total stock outstanding. With a road whose balance sheet shows it to be in need of cash working capital, it is hardly likely that every copper of the surplus would be paid out.

The maintenance charges of the Omaha are fairly heavy, compared with other western roads, and possibly conceal some earnings. On the other hand the Vanderbilt policy is distinctly not in the direction of high dividends but rather towards heavy improvements. The surplus shown in five or six years has varied very little, making it evident that the maintenance charges have been adjusted to earnings.

Unless this policy should be radically changed it is probable that the dividend on the preferred will remain as in the ten years from 1897.

This is likewise true of the dividend on the common. It was only begun in 1897, and 7% has been paid only from 1905. The common shares equally with the preferred, and in

order that it should have an additional one per cent., this would have to be paid on the entire amount of stock outstanding.

On the other hand the road is prosperous, the maintenance charges are ample, and the surplus shown easily provides for the 7% dividend on the common, with something left over. The common may therefore be regarded as a fairly solid 7% stock, with excellent prospects should prosperity continue. On this basis it would probably be regarded by investors as an attractive purchase at from $140 to $160 per share. Since it was put on a 7% basis, it has sold as high as $225, in January, 1905. It sold down to $120 per share in the general decline of 1907.

THE CINCINNATI, HAMILTON AND DAYTON RAILWAY.

The Cincinnati, Hamilton & Dayton in 1904-5 was the central company in the big merger of that road, the Pere Marquette and the Chicago, Cincinnati & St. Louis, which was to form the Great Central system. Within a little more than a year from the date of the combination, it passed into the hands of a receiver and the system was dismembered.

The Cincinnati, Hamilton & Dayton operates a main line from Cincinnati to Toledo with branches to Ironton on the Ohio River and westward through Indianapolis to Springfield, Ill. In 1906 it operated an average of 1,038 miles.

The present company represents the consolidation in 1895 of the old *Railroad* company with the Cincinnati, Dayton & Ironton and the Cincinnati, Dayton & Chicago. The Indiana, Decatur & Western was afterwards acquired. It leases the Dayton & Michigan. The road was chartered in 1846 and the main line opened in 1851. It has had a checkered career and illustrates the principle of heredity in railroad management which has frequently been dwelt upon in these pages.

In 1882 President Jewett and his associates of the Erie Railroad acquired control, through a guarantee of dividends on the stock which they were afterwards unable to fulfill. In 1887 the road fell into the hands of the notorious "Napoleon" Ives, who, after running the printing press overtime for the issue of new stock, came to a spectacular smash in August of that year. It was probably one of the few times in the history of the Stock Exchange that a disaster was greeted with cheers.

In 1904 a new element came into control, with ambitious designs. Apparently for the purpose of reducing the amount of capital required to control the road, $6,925,500 of the 5% preferred and all of the $1,074,500 of the 4% preferred was bought in by the company at the rate of $110 for the first and $100 for the second. Gold notes to the amount of $15,000,000 were issued;

and in the same year $12,834,450 par value of the $16,000,000 outstanding common stock of the Pere Marquette and $1,487,800 of the outstanding $12,000,000 of preferred of the same road was purchased.

For the common stock $125 per share was paid, the purchase apparently being made principally on a report dated May 16, 1904, presented to the directors by Jabez T. Odell, Vice-President of the Pittsburg, Bessemer & Lake Erie. In that year 4% had been paid on the Pere Marquette preferred and 1% on the common. Reference to the analysis of the Pere Marquette will reveal that in order to pay these dividends, maintenance charges and operating expenses generally had been cut down to a minimum, and that had these charges been up to the standard of other roads in the same section, practically no surplus would have been shown. In proof of this it is sufficient to note that in the year following the purchase—that is, in 1905—under the management of so capable a railroad official as Russell Harding, on an increase of a million and a quarter of dollars in gross earnings, net earnings showed a decrease of nearly one million dollars. It does not appear that the combination of the two roads was of any advantage to either, for the gross earnings of the Cincinnati, Hamilton & Dayton for 1905, following the purchase, showed a decrease rather than a gain, and the Pere Marquette increase was slight. In other words, the Cincinnati, Hamilton & Dayton paid $125 per share for $12,000,000 and over of common stock, on which nothing was legitimately being earned and from which no other advantages apparently were derived.

On January 12th of 1905, the lease of the Pere Marquette for 999 years was formally ratified, the C. H. & D. guaranteeing 4% on the preferred stock of the Pere Marquette and *five per cent.* on the common.

For the fiscal year of 1905 the C. H. & D. showed a deficit and on December 4th a receiver was appointed. The board of directors which performed this brilliant feat of railway finance was, as given in the report of 1905, published later by the receiver, as follows: Eugene Zimmerman of Cincinnati, president; Russell Harding, vice-president; Joseph B. Foraker, United States Senator from Ohio; James N. Wallace of the Central Trust Co., New York; Frederick L. Eldredge, Arthur Turnbull, Alfred Skitt, Richard N. Young, all of New York; Thomas H. Tracy, and James J. Robison of Toledo; Wm. L. Dechant of Middletown,

Ohio; and Charles A. Otis, Cleveland. The executive committee consisted of

Eugene Zimmerman	James N. Wallace
Thomas H. Tracy	Arthur Turnbull

In September, 1905, through J. P. Morgan & Co., the Erie Railroad arranged to acquire control by purchase of about $5,000,000 of stock, "but the obligations of the Cincinnati, Hamilton & Dayton under lease and under other contracts being found unduly heavy, Mr. Morgan in November, 1905, relieved the Erie of its purchase." The price which the Erie Railroad was to pay for the stock of this road, which for the fiscal year 1905 closing June 30th, had shown a deficit, and which one month after it had been returned to the Morgan interests was placed in the hands of a receiver, was *one hundred and sixty dollars* per share.

In an action brought by Homer Lee against Henry F. Shoemaker, Chairman of the Board of Directors of the Cincinnati, Hamilton & Dayton, Eugene Zimmerman of Cincinnati, and H. B. Hollins & Co., of New York, $2,000,000 was claimed as due on the profits of the merger of the Pere Marquette and the C. H. & D. The complaint asserted that Lee and Wm. J. Hiland were instrumental in adjusting the deal by which the merger was put through and that the profits amounted to $20,000,000, of which it was agreed they should receive 10%. This suit was discontinued under a stipulation signed by all the parties under action before being brought to trial.

In 1906 the lease of the Pere Marguette was set aside and the two roads again operated separately.

The directorate as given in the report of 1906 was composed of George W. Perkins, of J. P. Morgan & Co., Chairman of the Board; F. D. Underwood, president of the Erie, president; Samuel Spencer, Henry F. Shoemaker, Charles Steele, George F. Baker, George W. Young, Norman B. Ream, all of New York; R. R. Rhodes, J. H. Clarke, C. A. Otis, Jr., of Cleveland; W. L. Dechant of Middletown, Ohio; and N. Monsarratt of Columbus, Ohio.

In 1905 the road reported 1,558 shareholders.

Capitalization.

Practically all of the preferred stock was bought in under the arrangement noted above, at $110 and $100 per share and on June 30th, 1906, the Central Trust Co., of New York had on

deposit for the purchase of this stock $8,645,026. In the following table this latter amount has been included under the item of securities held, and deducted from the gross capitalization shown.

Common stock	$8,000,000
Preferred stock	8,000,000
Total stock	$16,000,000
Funded debt (net, including Leased & Auxillary Co.'s)	47,944,000
Leased Lines Guar. Stock	3,713,200
Equip. Obligations (Inc. leased lines)	2,784,000
Receiver's Certificates	511,830
Total Capital	$70,953,030
Securities held	$29,814,266
Approx. net capital	$41,138,784

Approx. net capital per mile	$39,627
Average miles operated	1,038
Net earnings on net capital	4.8%
Stock on net capital	36%
Fixed Charges on Total net Income	147%
Factor of Safety	——

In the item of securities held given above is included $16,570,273 book value of a liability interest in the stocks owned by the Michigan Security Company. This apparently includes the $12,000,000 par value Pere Marquette common stock purchased at $125 per share. Inasmuch as the Pere Marquette in 1906 earned a deficit and the $16,000,000 of outstanding common stock comes behind $12,000,000 of preferred stock, it is evident that this stock, figured at the price which the common stock of bankrupt roads is usually worth, from $10 to $20 per share,—represented a corresponding loss to the shareholders of the Cincinnati, Hamilton & Dayton. The entire Other Income of the C. H. & D. for 1906 was only $120,735.

The actual net capital of the company was therefore some $10,000,000 or $12,000,000, or more than 25% higher than as indicated by the table above, and the approximate net capitalization was actually above $50,000 per mile. As the larger part

of this was in bonds, etc., this on a road earning $8,000 per mile, was a heavy load. Even under the very remarkable management displayed by Receiver Judson Harmon, in the prosperous year of 1906, net earnings really amounted to less than 4% on the estimated net capital.

The deficit shown for the year was $1,147,630, equal to nearly one and a half times the Total Net Income.

Character and Stability of Traffic.

Passenger traffic contributed in 1906 about 22% of the gross earnings. Of the freight tonnage 44% was products of mines, 12% lumber, etc., 15% farm products, 14% manufactures.

The mileage and earnings of the road over a period of years have shown as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	652	$4,627,352	$7,101
1897–8	652	4,908,563	7,533
1898–9	652	5,241,503	8,044
1899–0	652	5,735,531	8,802
1900–1	652	5,837,916	8,953
1901–2	652	6,352,164	9,741
1902–3	1,015	7,997,223	7,878
1903–4	1,015	8,104,831	7,985
1904–5	1,032	8,008,917	7,760
1905–6	1,038	8,398,417	8,090

In the receiver's report for 1906 attention is drawn to the fact that the statement of earnings for 1906 "included actual earnings only, while the statement for 1905 included items which were not earnings. For instance, in June, 1905, $106,086 of *overcharges* paid in 1905, on business done before July 1st, 1904, was credited to freight earnings for that month, and charged directly to profit and loss." This was under the Zimmerman administration.

It will be seen that although the gross earnings have increased considerably, this was due to additional mileage and the mileage earnings have shown considerable decline from 1902, when they reached nearly $10,000 per mile.

Maintenance.

From 1900 the charges to maintenance have been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	954,371	$870	$941	$1,811
1901–2	1,041,538	876	1,081	1,957
1902–3	813,376	773	911	1,684
1903–4	776,448	767	1,063	1,830
1904–5	816,070	876	1,165	2,041
1905–6	905,209	1,101	1,353	2,454
Average	917,835	$877	$919	$1,796
Vandalia.....	910,426	$1,184	$1,693	$2,877
Wabash.......	880,032	1,332	1,370	2,702
Tol. & O. C.....	1,423,424	1,225	1,471	2,696
Lake E. & W...	592,307	999	733	1,732

The C. H. & D. is a normal or typical railroad, similar to others in its vicinity and it might readily be supposed, therefore, that its average maintenance charges would be about the same as its competitors. Reference to the above table shows, however, that the Vandalia and the Wabash, with approximately the same traffic density, spent in the six years under view an average of about $1,000 per mile more. The Lake Erie & Western, with about two-thirds the traffic density spent as much as the C. H. & D. There was nothing in the superior physical condition of the road to make it possible to operate the C. H. & D. on such a standard of maintenance and had its standard been up to the level of other roads in the same section, the added charges would have wiped out the larger part of the nominal surplus shown from 1891 to 1905.

Surplus Earnings.

As it was, the nominal surplus shown was as follows:

1900-1	$756,363
1901-2	947,264
1902-3	1,161,151
1903-4	793,530
1904-5	*241,224
1905-6	*1,147,630

*Deficit.

It will be seen that in 1905, under the Zimmerman administration, the company showed a deficit of $241,224. Only $192,921

of this was due to increase in rentals paid under the lease of the Pere Marquette. It was on the showing made during this year that it was proposed in the September following to sell five millions of this common stock to the Erie Railroad at $160 per share.

Condition.

Receiver Judson Harmon took charge of the property on Dec. 4th, 1905, and the report for 1906 included seven months of operation under his receivership. Gross earnings for the year showed an increase of $389,500. This was in the face of a decline in the average rate per ton mile of from .80c. to .74c. Owing to the increase in operating expenses, net earnings were slightly less than in 1905. This was wholly due to an increase in maintenance charges which were about $550,000 more in 1906 than in 1905.

In the face of an increase of nearly 100,000,000 ton miles of revenue freight carried, and the generally higher cost of materials and labor, the cost of conducting transportation declined slightly; in other words, while this item was 61% of the operating expenses in 1905, it was 56.7% in 1906.

There was an apparent increase of $176,133 in taxes, but the report states that "this was chiefly due to the charging of an omitted half year's taxes to bring the accruals to June 30th, 1906." In other words, this item might legitimately be deducted from the deficit shown in 1906 and added to that shown in 1905.

The report states that the greater part of the increase of $812,143 in interest charges was caused by the addition of $490,000 interest on the $15,000,000 of collateral trust notes issued in part to acquire in the company's 4% preferred stock at $110 per share and to secure control of the Pere Marquette, and $312,000 interest on the 4% refunding mortgage of July 1st, 1904.

The report of the receiver in 1906 states what the report of 1905, made up by the company, did not state: that on the $8,250,000 of refunding mortgage bonds which were issued and drew interest from July 1st, 1904, only four months' interest was charged to income account, "the remainder being charged to Capital Account."

The report further states that the interest on the $15,000,000 collateral trust notes was charged for the full year, although no payments have been made thereon since September, 1905.

From December 4th, 1905, to the close of the fiscal year, receiver's certificates to the amount of $511,830 were issued.

In further evidence of the able and energetic management of the road under the receivership, it may be noted that the number of revenue freight tons per train mile rose from 301 tons to 371 tons, and that the average earnings per freight train mile rose from $2.04 to $2.30 in the face of the decline noted above of the average freight rate from .80c. to .74c.

CINCINNATI, NEW ORLEANS AND TEXAS PACIFIC RAILWAY.

(Lessee of the Cincinnati Southern Ry.)

The Cincinnati, New Orleans & Texas Pacific comprises part of what is known as the Queen & Crescent route, which operates a series of roads from Cincinnati to New Orleans. The Cincinnati, New Orleans & Texas Pacific owns no track, but operates under lease the Cincinnati Southern, which is owned by the City of Cincinnati. In 1901 the existing lease was extended 60 years, the rental under renewal being $1,050,000 annually for the first twenty years.

The road is controlled by the Southwestern Construction Company, in the joint interest of the Southern Railway and the Cincinnati, Hamilton & Dayton, and operates a total of 336 miles, from Cincinnati to Chattanooga. As of June 30th, 1906, it had outstanding the following securities:

Common stock	$3,000,000
Preferred Stock	2,000,000
Equipment Trust Obligations	2,926,288
5% Gold Notes	1,500,000
Total Capital	$9,426,288

For the year 1906 the road showed:

Gross Earnings	$8,454,896
Net Earnings	2,062,224

During the year $440,825 was put into permanent improvements, which revert to the lessor company at the conclusion of the lease.

On traffic density amounting in 1906 to 2,650,162 ton miles there was expended for maintenance of way, $4,900 per mile and for maintenance of equipment, $4,274 per mile. This high standard of charges was not greatly above that obtained on the road for several years. This is more than three

times the average maintenance of the Louisville & Nashville, the Illinois Central and the Chicago & Alton, and with a traffic density of about two and one-half times as great as these roads, it would appear that this maintenance charge is extremely liberal, and probably conceals considerable earnings.

After the payment of fixed charges and the permanent improvements, there remained a balance of income over charges of $387,764. If the excess of maintenance represented no more than $2,000 per mile, this nominal surplus could have readily been increased to in the neighborhood of $1,000,000. This, over the 5% dividends on the preferred, would have left $900,000 available for dividends on the $3,000,000 of preferred stock, or the equivalent of about 30%.

It will be seen, therefore, that the 5% dividend paid on the common stock in 1906 was very amply protected and might readily have been doubled or tripled.

The preferred stock is 5% cumulative but without voting rights. It is apparently as amply protected as to its dividend as any stock on the market.

CLEVELAND, CINCINNATI, CHICAGO AND ST. LOUIS RAILWAY.

The "Big Four," as it is familiarly known, is the westernmost member of the New York Central-Lake Shore group of roads, and extends the system from Cleveland westward and southward to Cincinnati, Indianapolis, Peoria, St. Louis, and Cairo. It has long been a member of the Vanderbilt system, but was formerly operated by a somewhat separate set of officers. With the retirement of M. E. Ingalls as president, its chief executive officers are now the same as for the rest of the system. In 1906 it operated 1,983 miles of main track through Ohio, Indiana, and Illinois, with 218 miles of second track.

History.

The road represents the consolidation in 1889 of the Cincinnati, Indianapolis, St. Louis and Chicago, the Cleveland, Columbus, Cincinnati and Indianapolis, and the Indianapolis and St. Louis railroads. The reorganization took place in the Vanderbilt interest. In the following year the St. Louis, Alton and Terre Haute was absorbed, and later the Cincinnati, Sandusky and Cleveland and several other small roads, which extended the line to its present proportions.

Ownership.

A working control of the capital stock is owned by the Lake Shore, in the Vanderbilt interest, the Lake Shore holding Jan. 1, 1907, $23,148,100 of a total of $50,000,000 stock outstanding. The directorate was chiefly made up of Vanderbilt directors, as follows: William K. Vanderbilt, Frederick W. Vanderbilt, H. McK. Twombly, William H. Newman, and Chauncey M. Depew. The Chairman of the board is Melville E. Ingalls, long the president of the road, and the other directors of 1906 were James D. Layng, vice-president; J. Pierpont Morgan, Walter P. Bliss, James Barnett, and Alexander McDonald. Despite the fact that

the majority portion of the stock is thus owned, the road had in 1905, 1,965 shareholders.

Affiliations.

The Big Four is a direct feeder for the Lake Shore. Aside from its association with other Vanderbilt roads, the Big Four owns a majority of the $10,000,000 capital stock of the Peoria and Eastern Railroad, and guarantees the interest on that company's bonds; owns a majority of the stock of the Cincinnati and Northern; is part owner in various terminals at St. Louis and other points. Through the Peoria and Eastern it owns one fourth of the Peoria and Pekin Union Railway; and jointly with the Chesapeake and Ohio, it guarantees the interest on the Louisville and Jeffersonville Bridge bonds. As on January 1st, 1905, it held stock in the Chesapeake and Ohio Railroad carried on the books at a valuation of $2,453,570. The Central Indiana Railway is jointly controlled by the Big Four and the Pennsylvania.

Capitalization.

Including the increase of about $4,500,000 common stock, sold in 1906, the capitalization of the road Jan. 1, 1907, stood as follows:

Common Stock	$40,000,000
Preferred Stock	10,000,000
Total	$50,000,000
Funded Debt	63,612,727
Total Capital	$113,612,727
Rentals capitalized at 4%	7,132,325
Approx. gross capitalization	$120,745,052
Securities held	4,988,383
Approx. net capitalization	$115,756,669
Approx. net capit. per mile	$58,374
Aver. miles operated	1,983
Net earnings on net capital	5.3%
Stock on net capitalization	43%

Fixed Charges on Total Net Income..	69%
Factor of Safety....................	31%

The estimated capitalization per mile, $58,374, compares with $78,987 for the Lake Shore, $69,150 for the Wabash, and $101,311 for the Panhandle.

Its net earnings on the estimated net capital were low, amounting to only 5.3%, as against 3.9% for the Wabash, 12.7% for the Lake Shore, and 6.6% for the Panhandle; that is to say, its capitalization is high as compared with its earnings.

The stock represents 43% of the estimated net capitalization, as compared with 41% for the Lake Shore, and 31% for the Panhandle.

Fixed Charges in 1906 consumed 69% of the total net income, as against 38% for the Lake Shore and 54% for the Panhandle.

The Factor of Safety on the underlying securities and guaranties was not large.

Equities.

In 1906 stocks and bonds were owned of a book valuation of $4,988,388, the amount being unchanged from the previous year. The equities of the company in these holdings were small.

Peoria and Eastern.

For 1906, the Peoria and Eastern, owned by the Big Four, showed gross earnings of $2,165,771, a slight increase from the year before. The net earnings were $859,885, a slight increase, and the nominal surplus was $172,800, of which $150,000 was set aside for a special improvement fund. The road therefore returned to the Big Four nothing on the latter's stock ownership in the road. The Peoria and Eastern operated for the year 1906, 352 miles of main road.

Cincinnati and Northern.

This subsidiary road operated 247 miles of road in 1906, showed gross earnings of $1,027,728, net of $228,124, and a surplus over first charges of $132,696, as against $4,673 in 1905. The surplus for 1906 equalled 4.4% on its $3,000,000 of capital stock, but no dividends were paid.

Increase of Capitalization.

In 1905 there was an authorized increase in the common stock from $28,700,000 to $40,000,000 and during 1905 and 1906

this stock was sold, the larger part being taken by the Lake Shore. The increase in the company's nominal capitalization over a period of 6 years was as follows:

Year	Common Stock	Preferred Stock (5 per cent.)	Funded Debt	Total	Gross Earnings
1899-00	$27,989,310	$10,428,997	$57,169,730	$95,588,037	$16,806,850
1906	40,000,000	10,000,000	63,612,727	113,612,727	24,594,916

Net increase over six years: Nominal Capital, 18%; Gross Earnings, 44%.

In Oct., 1906, it was voted to increase the amount of common stock to $50,000,000, and the new $10,000,000 of stock was offered to stockholders at $90 per share.

Character of Traffic.

Passenger earnings were high, amounting in 1906 to about 28% of the gross earnings. Bituminous coal represented more than a quarter of the freight tonnage, the balance of the company's traffic being very evenly distributed between farm products, products of mines and manufactures.

Stability of Earnings.

In ten years the company has shown a handsome increase in earnings from $7,455 per mile in 1895-6 to $12,402 in 1906. This increase was very even and showed no setback from year to year within the period named. The details are as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895-6	1,838	$13,702,535	$7,455
1896-7	1,838	13,117,111	7,136
1897-8	1,838	14,320,094	7,796
1898-9	1,838	14,719,363	8,008
1899-00	1,891	16,806,851	8,887
1900-1	1,891	17,877,489	9,454
1901-2	1,891	18,717,071	9,898
1902-3	1,891	20,390,701	10,783
1903-4	1,891	21,069,954	11,142
1905*	1,893	22,517,763	11,355
1906	1,893	24,594,916	12,402

*Fiscal year changed.

Maintenance.

In the six and one-half years embraced in the following table it will be seen that the traffic density did not increase rapidly,—about 25%, while the total maintenance charges rose from $2,566 per mile to $3,459, or about 36%.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	1,009,564	$1,197	$1,369	$2,566
1901–2	1,064,192	1,329	1,496	2,825
1902–3	1,086,783	1,525	1,681	3,206
1903–4	1,029,851	1,440	1,628	3,068
1905	1,156,591	1,512	1,709	3,221
1906	1,284,311	1,657	1,802	3,459
Average	1,105,215	$1,443	$1,614	$3,057

Additional main track, 252 miles.

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Wabash.......	880,032	$1,332	$1,370	$2,702
T. St. L. & W..	1,046,149	996	959	1,955
Vandalia.....	959,668	1,254	1,630	2,884
Alton..........	1,099,515	1,371	1,273	2,644

Comparing the expenditures of the Big Four over a series of years with other roads in the same section, of about the same traffic density, it will be seen that they were higher than any—considerably higher even than the Alton or the Vandalia, both of which have been very heavily maintained. It may be taken, therefore, that considerable earnings have been set aside for improvements and charged to operating expenses. This conclusion is borne out by the fact that the surplus shown in 1906 and the two years preceding was less than in any of the three years back of that. It is evident that these improvements have been adjusted to income.

The operating ratio for 1906 was 75%, the same as the preceding year. There seems no good reason why the Big Four should not be operated for around 70% and if the surcharge of maintenance be reckoned at no more than 4% of gross income, this would add around $1,000,000 to the nominal surplus shown.

Aside from these heavy maintenance charges, the following sums were deducted from surplus for improvements in the years named:

1900-1	$567,852
1901-2	600,371
1902-3	311,263
1903-4	1,000,000

No similar appropriations were made from surplus in either 1905 or 1906.

Surplus.

Under the conditions indicated above the nominal surplus shown over a series of years has been as follows:

Year	Surplus	Dividends on Preferred Stock	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1899–00	$2,273,982	5	6.3	3	53
1900–1	2,332,542	5	6.5	3	72
1901–2	2,250,860	5	6.3	3½	99
1902–3	2,029,979	5	5.5	4	79
1903–4	1,639,457	5	4	4	79
1905*	1,870,424	5	3.8	4	99
1906*	2,064,731	5	3.8	4	99

*Calendar year.

It will be noted that in neither 1905 or 1906 did the percentage of surplus remaining for the common, equal the full 4% dividend paid, when reckoned on the full amount of stock outstanding at the close of the year. On account of the increase of $7,000,000 in 1905 and about $4,500,000 in 1906 the surplus was actually sufficient to pay the 4% dividend and leave a small remainder.

Dividend Record.

Over a series of years the dividends paid have been as follows:

Year.	Dividends.
1891-07: Preferred	5% Yearly
Common.	
1883	2
1890	3 and 1 extra.
1891-3	3
1894-9	—
1900	3
1901	3½
1902-7	4

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current Assets	$6,031,366
Current Liabilities	14,153,434
Leaving a debit balance of	$8,122,068

The item of loans and bills payable at the close of the year was $5,615,925, almost the whole of which was created during the year. It is evident from the above showing that the company was in need of working capital. The various items of cash totaled $2,712,759, while the credit to profit and loss was $1,-673,234.

Investment Value.

The Big Four has profited in no very material way by the Community of Interest plan. Its average freight rates in 1899—the bed-rock year—were .54c per ton mile and .59c in 1906. This was an increase of less than six-tenths of a mill per ton mile and this on the company's traffic for 1906 would have represented a difference in the gross earnings of only about $1,000,000. The earnings of the road may therefore be regarded as solid and it has already been noted that its maintenance charges were heavy and especially so in 1906.

The preferred stock has paid its full 5% dividend, with the exception of two years, since 1891. It sold as high as $124 per share in 1902, declining to $100 in 1903 and rising to $118 in 1906. The amount of stock outstanding is not large and the dividend requirement of $500,000 should easily be met even in times of severe stress.

Four per cent. has been paid upon the common since 1902. In the latter year it sold as high as $108 per share, declining to $66 in the year following, rising to $111 in 1905, falling again to $63 per share in March of 1907.

If it be reckoned that around $1,000,000 of earnings were concealed in maintenance charges in 1906, the surplus for that year equalled about 7% for the common stock, so that in reality there was a fairly safe margin for the 4% dividend. But the balance sheet showed that the company was in need of working funds and that its current liabilities had shown a heavy increase through 1906. By reference to the capitalization account, it will

be seen that the fixed charges are already very high, nearly 70%, so that the road was in no position for further bond issues and in 1905-6 it could only sell its common stock at a discount of 10%.

In October, 1906, it was voted to increase the common stock from $40,000,000 to $50,000,000, the new stock being offered to stockholders at $90 per share. But this proposed issue was not well received.

When new stock must be sold at a discount, it is fairly evident that there is no immediate prospect for an increase in dividends. It is not very clear, therefore, that this 4% common stock should sell on a much higher basis than some of the 4% preferred stocks like the M. K. & T., etc. But purchased at something like the low price of 1907, it should in time show an attractive profit to the holder.

CLEVELAND, LORAIN AND WHEELING RAILWAY.

The Cleveland, Lorain & Wheeling Railway is a small coal road operating 194 miles of track between a point opposite Wheeling, W. Va., to Lorain on Lake Erie, with a branch to Cleveland. It is a part of the Baltimore & Ohio system and largely owned by that road, but separately operated. In 1904 the Baltimore & Ohio owned $3,012,700 out of the $5,000,000 of preferred stock outstanding and $6,760,600 out of the $8,000,000 common stock. The directorate of the road is made up in the B. & O. interest.

As of June 30th, 1906, the capital account stood as follows:

Common stock	$8,000,000
Preferred stock	5,000,000
Funded Debt	6,843,000
B. & O. loan	3,486,833
Total Capital	$23,329,833
Total Capital per mile	$120,254

On a traffic density of 3,350,053 ton miles the company spent an average of $3,311 per mile for maintenance of way in 1906 and $3,108 for maintenance of equipment. It is to be remembered that the larger part of the traffic of the road is the haulage of soft coal and ores and the passenger business of the road is very slight, amounting to only about 6% of the gross earnings, so that the total expenditure of $6,419 undoubtedly represented very ample maintenance, if not more.

On this basis of maintenance the road showed in 1906:

Gross Earnings	$3,480,256
Net Earnings	935,660
Fixed Charges	559,505
Surplus	379,090

The net earnings of 1906 were equivalent to about 4% on the capitalization of the road. In other words the capitalization is high. Fixed charges consumed 60% of the total net income. There remained a surplus sufficient to pay the full 5% on the $5,000,000 of preferred stock and show a balance of 2% on the common stock.

The full 5% was paid on the preferred in 1906 and likewise in 1905. In 1904, 2½% was paid. None previously since 1896.

The indebtedness to the Baltimore & Ohio Railroad for advances during the year increased by only $28,816. In other words, the road in 1906 had practically ceased to borrow.

Although there was a considerable increase during 1906 of tonnage, the cost of conducting transportation for the year decreased by $55,034, showing that the considerable improvements made in the property and the liberal sums devoted from earnings to improvements were bearing their fruit.

In view of payment of dividends on the preferred stock, it is obvious that the indebtedness to the Baltimore & Ohio will not be directly repaid, but funded, and should no serious depression come to the coal industry, the company should be able to continue payment of the full 5% on the preferred stock. This stock sold during 1906 at from $105 to $112 per share. It is non-cumulative.

The prospect for dividends on the common seem rather remote, for while maintenance charges in the years previous to 1906 undoubtedly carried considerable earnings devoted to improvements, the rise in the cost of labor and supplies have been such that probably the charges of 1906 were not greatly above the normal demands of the property. If, however, the road should continue to increase its earnings (it has more than doubled its gross income since 1899), it is obvious that the surplus would soon be sufficient to permit of dividends on the common.

Evidently in anticipation of such an event the common sold at from $85 to $100 per share in 1906. It did not appreciably decline in March of 1907. Such prices, with interest rates at the 1906 level, could hardly have been justified on the expectation of less than a 6% dividend. Even supposing that 25% of the maintenance charges for 1906 represented surcharge, this would have increased the surplus by only about $300,000, which, added to the $379,000 surplus shown, would have given a surplus of $679,000. Dividing this equally between dividends and improvements, the

amount remaining over the payment of the 5% on the preferred would have been less than 2%.

With its earnings pivoted upon the prosperity of a single industry, and that industry extremely sensitive to general conditions, it is evident that there were many other stocks on the list which represented a far more attractive purchase at the price.

COLORADO AND SOUTHERN RAILWAY.

The Colorado and Southern, through its extensions to Galveston, will take on an importance that it has hitherto lacked. It belongs to the Hawley group of roads, and operates a line extending from Denver, southeasterly to Fort Worth, with several branch lines westward from Denver through central and southern Colorado. It also owns a line from Cheyenne to Orin Junction on the North Western line in Wyoming, and operates from Denver to Cheyenne under trackage rights over the Union Pacific.

The road represents a reorganization in 1899 of the Union Pacific, Denver and Gulf, which was in turn a consolidation in 1890 of the Colorado Central, the Denver, Texas and Fort Worth, and several Union Pacific lines. Up to the time of the Union Pacific's bankruptcy, the Denver and Gulf was controlled and operated by that road, and the subsidiary line followed its parent into bankruptcy in 1893.

The Colorado and Southern took over as an asset from the bankrupt company practically all the stock of the Fort Worth and Denver City, owning a line from Texline to Fort Worth, Texas. It sold off its Julesburg branch to Lacelle, Colorado, to the reorganized Union Pacific, and secured its traffic rights from Denver to Cheyenne in exchange. During the year of 1906, the Colorado Springs and Cripple Creek District railway, 75 miles long, was added, together with another short piece of rail, and beginning with this year the accounts of the Colorado and Southern, the Fort Worth and Denver City, and the subsidiary roads were consolidated into the Colorado and Southern system, instead of presenting separate reports as hitherto.

In 1906 the road sold a half interest in its Trinity and Brazos Valley railway to the Rock Island Company, the latter assuming one-half of the guarantees as to interest, etc. The Brazos Valley extends to Houston, Texas, and has trackage rights from there to Galveston over the Gulf, Colorado and Santa

Fe. The report states that this will provide the shortest through line between the Colorado section and tidewater. It notes further that Galveston is almost exactly on the same meridian as Kansas City and that exports through Galveston already rank next in value to those through New York.

By the completion of another short line and trackage rights, the Colorado and Southern will also have the shortest line between Dallas and Galveston, and likewise between Fort Worth and Galveston. With the extensions which are planned from Wichita Falls south to Abilene, Texas, the Colorado and Southern will operate approximately 2,250 miles of railroad.

The main interest of all this lies in the fact that the road is popularly supposed to be held for sale at some future time to one of the larger railway systems, among which the Rock Island and the Union Pacific have been mentioned. Indeed it was supposed, when in 1905 B. F. Yoakum entered the directorate and became a member of the executive committee of the Colorado Southern, that this indicated a close working alliance with the Rock Island, this idea being further confirmed by the construction of the Brazos Valley line to Galveston. In addition to this joint line to the south, the Colorado and Southern also owns one half of the Colorado Midland Railway, jointly with the Rio Grande Western—i.e., the Denver and Rio Grande. The Colorado Midland extends from Denver and Colorado Springs to Grand Junction, and operates 334 miles. With the completion of the Western Pacific, the Colorado and Southern will form with the Gould lines another through line from San Francisco to the Gulf, thus injecting a new element of competition with the Harriman lines.

Again, the Colorado Southern joins the Burlington lines at Denver, and likewise in Wyoming, and it would require but a small piece of track to reach from Orin Junction, the northern terminal of the Colorado and Southern lines, to the Burlington's main line through to Billings, Montana, thus joining up a route from the Hill lines to the Gulf. This latter route would be very considerably shorter for the cotton traffic which the Hill lines now draw from Texas via Kansas City.

Still again, this same short extension would join the Colorado and Southern with the St. Paul's Pacific extension, so that by reason of its peculiar lie, the road offers an interesting number of possibilities of combination.

The Hawley interests acquired control of the property in 1902. The executive committee includes Grenville M. Dodge, the veteran builder of the Union Pacific Railway, and former president of the Union Pacific, Denver and Gulf; Edwin Hawley, president of the Minneapolis & St. Louis, etc.; John J. Emery, also a director in the Toledo, St. Louis and Western, vice-president of the Dayton and Michigan, etc.; Benjamin F. Yoakum, chairman of the board of the Rock Island Company, and the operating head of that system; and Hans Winterfeldt, of Hallgarten and Company, bankers, New York. The other directors were: Henry E. Huntington, associated with Mr. Hawley in other enterprises, heavily interested in traction companies in Los Angeles, etc.; James N. Wallace, president of the Central Trust Company, New York, also a director in the National Railroad of Mexico; Henry Walters, chairman of the boards of both the Atlantic Coast Line and of the Louisville and Nashville; Norman B. Ream, prominent in the affairs of the Erie, also a director in the Baltimore and Ohio, the Seaboard Air Line, etc.; Harry Bronner, secretary of the Colorado Midland; Henry Budge, formerly vice-president of the Clover Leaf; W. S. Crandall, New York; and Frank Trumbull, president, Denver, Colo.

Capitalization.

Including the small amount of Fort Worth and Denver City stock outstanding, the capitalization of the road on June 30th, 1906, stood as follows:

Common stock	$31,000,000
1st Preferred	8,500,000
2nd Preferred	8,500,000
Total stock	$48,000,000
Funded debt	41,233,637
Equipment lease	624,000
F. W. & D. C. Stock	625,965
Total capital	$90,483,602
Securities held	4,592,316
Approx. net capitalization	$85,890,286

Approx. net capital per mile......	$51,647
Average miles operated...........	1,663
Net earnings on net capital.......	4.3%
Stock on net capitalization.......	56%
Fixed Charges on Total Net Income	55%
Factor of Safety.................	45%

On the four and a half millions of securities held, the road derived in 1906, only $83,913 of income, or less than 2% on the book valuation of these holdings. The total amount, however, is small, and does not greatly affect the calculations.

It will be seen that the approximate net capitalization is high. The average of $51,647 per mile compares with an average of about $30,000 per mile for such standard roads as the Burlington, the North Western and the St. Paul.

This fact of over-capitalization is further reflected in the showing of net earnings on net capital, the net earnings showing only 4.3% in the very exceptional year of 1906, when the net earnings made a jump of nearly 50% over the year preceding. The showing of net earnings on net capitalization in 1905 was rather less than 3%. This was against an average of from nine to ten per cent. for the three western roads named above. The larger part of this very liberal capitalization is, however, represented by stock, on five-sixths of which no dividends, up to 1906, had ever been paid.

On the very favorable showing of 1906, the Fixed Charges consumed 55% of the total net income, leaving a nominal Factor of Safety of 45%. It will be noted, however, that this was quite abnormal. In the preceding year, before the accounts of the two subsidiary lines were consolidated, the Fixed Charges on the Colorado and Southern proper (about two-thirds of the system), consumed 65% of the total net income, leaving a margin of safety of only 35%.

Of the securities held in 1906 the principal items were $2,-922,000 Trinity and Brazos Valley first mortgage bonds, and a half interest in the Colorado Midland stock, amounting to $1,-710,100 par value of the common, and $2,477,400 of the preferred. In recent years that road has chiefly earned a deficit.

The capital stock of the Colorado and Southern has not been increased since the organization of the company in 1899, but the funded debt has risen rather rapidly. That of the Colorado and

Southern proper amounted in 1900 to $17,603,000, with a small amount of car trust notes, and for the Fort Worth and Denver City, to $2,036,500, or a total of $19,639,500. On June 30th, 1906, the funded debt of the system was $41,233,639, an increase of $21,604,139.

Of this increase, $3,439,000 was added by the inclusion of the Colorado Springs and Cripple Creek District Railway in 1906, leaving a net increase for the bonded debt of the system in six years, of $18,165,139, an increase of nearly 100%. In the same period the gross earnings of the Colorado and Southern-Fort Worth lines rose from about $6,200,000 (the fiscal years of the two roads did not coincide, so that the sum has to be estimated) to $11,653,445 in 1906. In other words, roughly speaking, the increase of funded debt and gross earnings have about kept even pace, the difference of debt rather exceeding the increase of earnings.

Stability of Earnings.

Of the tonnage of the road in 1906, farm products formed 16% of the total, with coal 30%, lignite coal 11%, precious ores 10%, the balance being distributed over the usual variety of traffic. All told, products of mines made up two-thirds of the tonnage of the road, but contributed less than half of its gross freight earnings.

Up to 1903, the Fort Worth and Denver City reported for the calendar year and the Colorado and Southern for a fiscal year ending June 30th. The following table shows the mileage and earnings of the Colorado and Southern proper from the first year of its reorganization to the close of 1902, the total earnings of the Colorado and Southern-Fort Worth line in 1903 and 1904, and the years of 1905 and 1906 include also the operations of the Colorado Springs, and Cripple Creek District road.

Year	Miles Operated	Gross Earnings	Per Mile
1899–0	1,142	$4,237,743	$3,710
1900–1	1.142	4,794,649	4,200
1901–2	1,133	5,580,327	4,925
1902–3	1,575	8,637,676	5,487
1903–4	1,574	8,199,305	5,205
1904–5	1,646	9,443,426	5,733
1905–6	1,663	11,653,445	7.006

Under the conditions noted above, the comparisons are of value only since 1903. The earnings for that year showed a very considerable increase over the earnings for the year before, and over any preceding year of the company's history, the mileage earnings amounting to very nearly $5,500 per mile. These earnings slumped somewhat in the year succeeding, but rose rapidly in 1905, and still more so in 1906. In the latter year gross earnings of the system increased 23%, and net earnings 48%, and taxes remaining about the same, the Total Net Income available for charges and dividends rose from $2,212,000 to $3,439,000, an increase of 60%.

This was a quite astonishing jump, and unfortunately the change in the methods of reporting the earnings of the system makes it impossible to find out whence this heavy increase of business was derived. There was a slight reduction in the average rate per ton mile, of from 1.07c to 1.02c, this being compensated by a considerable rise in the trainload from 247 to 271 tons, so that the freight earnings per freight train mile, rose from $2.66 to $2.79.

Maintenance.

Since the average freight earnings per mile remained about the same, it follows that the increase of traffic density was about the same as the increase of gross earnings per mile; it was, in other words, about 23%; by comparison with the previous year it will be seen that this considerable increase of traffic was carried with about the same charges for maintenance of way as for the preceding year. There was, however, very considerable increase in the charges for maintenance of equipment. The charges for several years compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	269,859	$611	$557	$1,168
1901–2	318,278	840	650	1,490
1902–4	400,991	887	815	1,702
1903–3	299,484	865	826	1,691
1904–5	394,749	1,148	788	1,936
1905–6	503,778	1,178	913	2,091
Average	364,523	$921	$758	$1,679
Atchison	577,005	$1,123	$1,113	$2,236
Burlington......	580,024	1,104	1,032	2,136
Missouri Pacific (Aver. 2 years)	623,807	819	821	1,640

The equipment charges for the two years were:

	1905.	1906.
Locomotives	$2,503	$2,509
Freight cars...........	61	66
Passenger cars........	632	831

It is to be further remembered that 387 out of 1,663 miles of the system was narrow gauge track, with a correspondingly lighter equipment and lessened wear and tear, so that an aggregate maintenance charge of $2,091 per mile in 1906 was probably adequate, although it was not up to the same standard as the preceding year, but it compares very favorably with that of the Burlington and the Atchison, which in 1906 were both very heavily charged.

On the other hand, the Atchison, for example, has set aside heavy sums for improvements annually from earnings in addition ; but on the Colorado and Southern such charges have been made to operating expenses directly and there have been no additional appropriations.

Surplus Earnings.

In the following table is shown the amount of surplus available for dividends and improvements for the Colorado and Southern proper up to 1906, and for the entire system for the latter year. The actual difference in the preceding years was not large, the surplus on the Fort Worth and Denver City line in 1905 amounting to only $6,354.

Year	Surplus	Dividends Paid on 1st Preferred	Per cent. Earned on 1st Prefer'd	Per cent. Earned on 2nd Prefer'd	Average Price 1st Prefer'd
1900–1	$405,648	3½	4.7	.77	50
1901–2	626,759	3½	7.3	3.37	69
1902–3	496,953	4	5.8	1.84	58
1903–4	437,841	2	5.1	1.15	55
1904–5	610,315	–	7.1	3.18	61
1905–6	1,766,212	4	20.7	16.7	70

With the very heavy increase of earnings in 1906, and with no corresponding increase in the operating charges, the surplus for the year was very nearly 200% higher than in the year preceding, so while in 1905 the road paid no dividends on any of its

stock, and earned only 7% on its first preferred, its showing in 1906 was equivalent to the full 4% on both classes of preferred stock, and 3% additional on the common.

The only class of stock on which any dividend had been declared up to 1906 was the first preferred, which has paid as follows:

	%
1900	2
1901	3½
1902	3½
1903	4
1904	2
1905	..
1906	4

In 1907 an initial dividend of 2% was declared on the 2nd Pref.

The Balance Sheet.

At the close of the fiscal year of June 30th, 1906, the balance sheet showed:

Current assets	$1,997,487
Current liabilities	1,254,322
leaving a working balance of	$743,165

There was in addition to the current liabilities, $725,310 of deferred liabilities, accrued taxes, interest etc., bringing the total liabilities up to $1,979,632.

The item of cash amounted to $1,146,568, and the balance to the credit of Profit and Loss was $3,246,291.

The road also had assets in special funds to the amount of $244,275, and had advanced to subsidiary companies, $1,048,639.

Investment Value.

Both the first and second preferred are entitled to 4% dividends, non-cumulative. It will be seen from the table of surplus earnings that the full 5% has been earned on the first preferred since 1900, and that in the exceptional year of 1906 there was a very large balance remaining. In 1906, prices on this stock ranged between $66 and $73 per share. This low price was undoubtedly occasioned by the passing of the dividend in 1905. The dividends were resumed in 1906 on this stock, and there

seems no reason why this stock should not eventually sell at from $80 to $90 per share, or possibly even higher, should there be no heavy decline in railway values generally.

The full dividend on the second preferred had never been earned, save in the single year of 1906. In that year it sold between $43 and $58 per share. In March of 1907, an initial dividend of 2% was declared. Should the road continue to show anything like the earnings of 1906, this stock would be put upon its full dividend basis, and would then be entitled to sell around $70 to $80 per share.

The price of both these stocks has been somewhat depressed from the fact that in 1905 the road determined upon the creation of a refunding and extension mortgage to the amount of $100,000,000. During the fiscal year of 1906 bonds of this issue were put out to the amount of $11,372,032, of which $2,958,395 was applied to betterments, improvements and to reimbursing the treasury for additions to equipment; while the balance, $8,413,637, was set aside for the payment of various securities, including $1,999,100 par value of the stock of the Colorado Springs and Cripple Creek Railroad.

This was a heavy issue for this road, and indicates the policy of expansion upon which the management has embarked. Owing to its load of stock, this road can only extend through the increase of its fixed debt, and this fact will tend to make its securities sell in general below their actual worth until very definite results in increased business have been shown.

On the other hand, the $17,000,000 of preferred stock represents more than one-third of the outstanding capital stock and would share to some extent in the somewhat artificial value given to the stock by the fact that this road is thought to be coveted by other large systems.

The amount of common stock, $31,000,000, is, compared to the earnings and the capitalization, enormous. Nothing was ever earned on his stock until 1906, when the surplus showed a nominal 3% after maintenance charges that were undoubtedly adequate, if not much more than that. If these earnings can be maintained, it is easy to see that the stock would very soon acquire a solid value. On a 5% basis the net earnings for 1906 would give a valuation of $75,000,000 to the road, which, after deducting $60,000,000 of stock and preferred bonds, would leave

$15,000,000 for the $31,000,000 of common. In an interview President Hawley stated that control of the road would not pass at under $40 a share for the common stock.

But a controlling interest, it is needless to say, is worth very much more than the floating supply available to the public for investment purposes. In 1903 the common sold as low as $10 per share; but its earnings have increased so extensively since this time that this affords little indication as to what the stock might sell at on any considerable recession of prices. In the general slump of 1907 the stock did not sell below $22 per share.

This stock, it goes without saying, is a pure speculation, and it is to be noted that it requires less than half of the common stock, added to the whole amount of the preferred to insure control. In 1906 Colorado showed an amazing prosperity, in which the road shared in the fullest degree. The greatest development of the state is now in agriculture, and its mining has now fallen behind the value of its agricultural products. Should the price of silver continue to advance, this would mean renewed activity in silver mining, and there is no state in the Union which would benefit more from this than Colorado.

Again, supposing that the extension to the Gulf, with possible extensions to the north and the connection which will be afforded by the new Western Pacific, should reap the harvest which the management hopes, the Colorado and Southern would show a large increase in traffic.

As an investment, the preferred stock offers a far greater degree of solidity than the common, and at the prices of 1907 it would seem that these stocks were relatively low. The investor in common would obviously be speculating upon the successful outcome of the expansion policy, and this outcome depends more or less upon the continuance of the amazing prosperity, not to say boom, which the Southwest has enjoyed within recent years. This development, alike in the settlement of the country and in the rapid construction of new lines of railroad, was in many respects paralleled by the expansion of the Northwest in the eighties, and the cautious investor will not fail to bear in mind the possible consequences of its being overdone.

DELAWARE AND HUDSON COMPANY.

The Delaware & Hudson is one of the anthracite coal roads and operates a line from Wilkesbarre, Pa., to Albany and Troy on the Hudson, and northward, to the Canada line and into the Adirondacks, with a total of 843 miles.

By purchase of the control of the Quebec, Montreal & Southern and the proposed extension of that line eastward to Quebec, the company will add 280 miles to its line and will have the shortest road between Quebec, Montreal and New York and between Quebec and Montreal. This will give the lines of the company direct connection with all the important railroads in eastern Canada and will enable it to serve numerous paper mills located along its lines with the supply of wood pulp necessary for their operation.

Like the New Haven road, the Delaware & Hudson has also made extensive purchases in traction lines. It owns the entire capital stock of the United Traction Co. which operates 83 miles of electrical lines in Albany, Troy and the vicinity, and this company in turn has control of the Hudson Valley Railway Company, operating 129 miles of electric road extending northward to Warrensburg.

The Delaware & Hudson Company is one of the oldest organizations of the country, the old Delaware & Hudson Canal Company having been chartered by the New York State legislature in 1823 for the purpose of constructing a canal from the coal fields of Pennsylvania to the Hudson River at Rondout, N. Y. The Gravity Railroad was completed in 1829. The present name of the company was adopted in 1900, and at the same time it was authorized to sell the canal and purchase its own securities for sinking fund purposes. The Gravity Railroad was brought up to standard gauge and opened for regular business in February, 1900.

The company owns extensive anthracite coal fields with unmined coal estimated by the government at 260,000,000 tons, and

by the company itself (January 1st, 1907) at 207,801,964 tons. Up to 1906 the company derived a larger income from its coal tonnage, including therein the amount charged its Sales Department, than from all its other tonnage combined; but the merchandise tonnage has been rising steadily, while the coal tonnage has for several years remained about stationary, and for 1906 the earnings from coal were slightly less than from general freight.

Ownership.

No distinct interest is recognized in control of the road, although the Mutual Life and Equitable Life interests were formerly prominently represented on its directorate. The Mutual Life was in 1906 still represented by Charles A. Peabody, President, and Frederic Cromwell, Treasurer. The company had 3,819 shareholders of record in 1905.

In 1906 its board of managers consisted of Robert M. Olyphant, Chairman, formerly its president; Alexander E. Orr President of the New York Life Insurance Company; Chauncey M. Depew, of the New York Central RR.; John Jacob Astor; David Willcox, its president; R. Suydam Grant; George I. Wilber; Dumont Clarke, President of the American Exchange National Bank; James A. Linen, Scranton, Pa.; William S. Opdyke, general counsel of the road, and E. H. Harriman, President of the Union Pacific. In 1907 Mr. Willcox resigned as president of the D. & H. and was succeeded by Leonor F. Loree, Chairman of the Executive Committee of the Kansas City Southern, and formerly president of the Rock Island, and the Baltimore & Ohio.

Until its purchase of the Hudson Valley and other traction lines, the Delaware & Hudson had no holdings other than in its underlying companies, nor are other roads known to be very large holders of its stock. It belongs in a general way to the combination of railroads which has done away with rate wars, but beyond this it is considered an independent line.

Capitalization.

Since the Delaware & Hudson gives in its report a list of the underlying securities, it is possible to make up its capital sheet from the company's own figures. As of January 1st, 1907, this stood as follows:

Stock	$40,989,000
Funded Debt	22,450,000
Nominal capital	$63,439,000
Underlying stocks and bonds	47,344,000
Gross capitalization	$110,783,000
Securities held	25,679,447
Coal property	13,436,561
Approx. net capitalization	$71,666,992
Approx. net capit. per mile	$85,014
Average miles operated	843
Net earnings on net capital	9.4%
Stock on net capitalization	56%
Fixed Charges on Total Net Income	40%
Factor of Safety	60%

In 1906 the Delaware & Hudson paid approximately $2,-500,000 on the $47,344,000 of underlying securities. This was equivalent to an average of more than 5%. It follows, therefore, that had the amount paid been capitalized on a 4% basis as elsewhere in this book, the figure for gross capitalization would have been somewhat higher. This is to be borne in mind in comparison of the D. & H. with other roads.

On the other hand, in its balance sheet the Delaware & Hudson puts a valuation on its coal properties of $13,436,561 and this amount, together with securities held and advances to other companies has been deducted in order to approximate the net capitalization of the railway proper. After depreciation charges of 5c. per ton on coal produced, the Sales Department earned net $1,828,985 in 1904, $1,790,699 in 1905, and $1,049,498 in 1906, so that the company's valuation on its coal properties, equivalent to about 6c per ton on its own estimate of unmined coal, was low and its earnings on this amount were high.

On the basis of the above estimate it will be seen that the approximate net capitalization is in the neighborhood of $85,000 per mile and that the net earnings, excluding earnings of the coal department, showed 9.4% on this capitalization. This figure stands against a similar estimate of 8.1% for the Pennsylvania,

13.7% for the Lackawanna, 10.8% for the Reading and 5.8% for the New York Central.

Stock represented more than one-half of the estimated net capitalization and fixed charges in 1906 consumed 40% of the total net, leaving a wide Factor of Safety for the underlying securities.

Increase of Capitalization.

In 1889 the company adopted the plan of setting aside a sinking fund of 5c. per ton on all the coal mined, the proceeds being used for the purchase and retirement of the capital stock of the road. By this means the capital stock had been reduced to $34,000,000 in 1903, but since then, stock increases, principally for the retirement of underlying bonds and the company's own debentures, have more than offset these purchases for the sinking fund.

From 1900 to the close of 1906 the increase of capital and earnings compared as follows:

Year	Common Stock	Funded Debt	Total	Securities Held	Gross Earnings
1900	$34,793,200	$7,500,000	$42,293,200	....	$11,485,188
1906	40,989,000	22,450,000	63,439,000	24,013,866	17,050,029

Net increase over six years: Nominal capital, 50%; gross earnings, 49%.

To provide for the retirement of $7,000,000 6%, and $3,000,000 7% bonds of the Albany & Susquehanna, $10,000,000 of 3½% bonds were offered to stockholders of the D. & H. at par in 1905. These bonds, like the $14,000,000 of Delaware & Hudson debentures sold in 1906, are convertible into stock of the D. & H. at $200 per share. The conversion of all these securities would add $12,000,000 to the capital stock of the road, at the same time reducing fixed charges by the amount of the interest paid.

It will be seen that apparently the increase of capital was more rapid than the increase of earnings, but the larger part of the increase of capital went to the purchase of securities in other roads so that in reality the earnings increased about 50%, on a very slight increase of actual capital.

On June 15th, 1906, debentures of the company were issued

to the amount of $14,000,000, more than tripling the nominal funded debt. Each debenture of $1,000, par value, is convertible into five shares of the stock of the company between 1907 and 1912; that is, at an exchanging value of $200 per share for the stock of the company. In order to provide for such conversion, an increase of $7,000,000 in the stock of the company was authorized. The sums derived from these debentures were used chiefly in the purchase of new equipment, stock in the Quebec, Montreal & Southern, of traction lines, etc.

Securities Held.

The item of securities held includes a miscellany of stocks and bonds of various small railroads and coal and iron companies. The interest on investments for 1906 amounted to $1,047,863, which was about 4% on the book valuation of the securities. There were no considerable equities in these holdings, save possibly in some undeveloped iron properties.

Stability of Earnings.

In 1906 the coal traffic contributed 57% of the total freight tonnage, as against 62% in 1905, 53% in 1904, 58% in 1903, 44% in 1902 and 58% in 1901. The balance of freight traffic was distributed over a wide variety of items. In 1906 passenger earnings contributed 19% to the gross rail earnings.

It will be seen from the above how vitally the prosperity of the road is bound up with the coal industry, and especially of anthracite mining. In 1902, in consequence of the strike, the gross rail earnings fell off $2,400 per mile, and the surplus available for dividends decreased from 12.6% in 1901 to 7.2% in 1902, a drop of about 40%.

Since this period the earnings have increased rapidly, the rail earnings amounting in 1906 to $20,225 per mile. The following table shows the rail earnings since the formation of the present company, the gross earnings of the coal department not being included in this table as is done in the company's reports:

Year	Miles Operated	Gross Earnings	Earnings Per Mile
1900	660	$11,485,189	$17,018
1901	661	12,178,683	18,424
1902	689	11,050,690	16,038
1903	769	13,642,953	17,441
1904	843	15,071,124	17,880
1905	843	16,382,074	19,433
1906	843	17,050,029	20,225

Maintenance.

Over a series of years the traffic density and maintenance charges of the road have compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900	1,746,742	$1,561	$1,441	$3,002
1901	1,928,156	1,804	1,655	3,459
1902	1,682,598	1,965	1,805	3,770
1903	2,101,858	2,052	1,803	3,855
1904	2,114,585	2,046	1,868	3,914
1905	2,500,234	1,731	2,235	3,966
1906	2,550,934	1,663	2,391	4,054
Average	2,089,301	$1,831	$1,885	$3,716
Erie..........	2,434,819	1,861	3,216	5,077
N.Y.C. & St. L.	2,599,902	2,156	2,059	4,215
B. & O.......	2,282,704	1,876	2,416	4,292
Lehigh Valley.	2,771,846	2,588	3,429	6,017

The Delaware & Hudson, being largely a coal road, its earnings have been compared with four others of somewhat the same character of traffic. It will be seen that, traffic density compared, its charges have been well up to the standard of of the four other roads shown and the standard of these four roads is exceptionally high. A maintenance charge of $4,000 per mile in 1906 should be amply sufficient to maintain the road at a point of high efficiency.

Improvements from Earnings.

The company has no special improvement fund, but for years large amounts have been charged off from profit and loss and devoted to betterment work. In 1905, $800,000 was so devoted to mining plant and $503,642 to equipment. In 1906, $1,592,683 was charged off for equipment, $884,910 for new railroad construction, $262,662 for unmined coal and $239,918 for advances for unmined coal.

Surplus Earnings.

Before charging off these amounts, the surplus for a series of years has shown as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900.............	$2,958,429	8.5	5	121
1901.............	4,370,706	12.6	7	164
1902.............	2,497,874	7.2	7	173
1903.............	6,205,156	18.	7	166
1904.............	5,256,446	12.8	7	169
1905.............	5,707,743	13.9	7	201
1906.............	5,301,622	12.9	7	216

It will be seen that the surplus for 1906 was slightly smaller than 1905, this being due largely to a decrease of $741,201 in net earnings of the coal department.

Dividend Record.

The company passed through a period of difficulties in the years prior to 1880, but in 1881 dividends were resumed and have since been paid regularly through more than a quarter of a century, as follows:

Year.	Dividend.
1881....................................	4½%
1882-4....................................	7
1885....................................	6
1886-7....................................	5
1888....................................	6
1889-96....................................	7
1897-00....................................	5
1901-6....................................	7
1907....................................	9

Coal Operations.

A very considerable part of the company's business is the mining, as well as the carriage, of anthracite coal, and from 1903 the gross and net earnings (after depreciation charge) of the Sales Department have compared as follows:

	Gross.	Net.
1901.............	$16,924,932	$1,173,938
1902.............	11,064,748	728,009
1903.............	20,183,231	3,366,073
1904.............	19,032,414	1,828,986
1905.............	20,214,296	1,790,699
1906.............	18,571,342	1,049,498

The depreciation charge of 5c. on all coal produced is charged against operating expenses and turned into a sinking fund, this charge amounting to $238,338 in 1906 and $250,260 in 1905.

During 1906 the company produced 5,401,389 tons as against 5,695,493 tons in 1905.

The net profits of 1906 amounted to 19c. per ton produced as against 31c. per ton in 1905. The reduced earnings of 1906 were due to a slight decrease in product, higher costs and to the decreased revenue from coal sales. This decrease shows the highly variable profits of this industry.

The estimated amount of coal owned and controlled January 1st, 1907, was 207,000,000 tons. If this were figured at an average value of 10c. per ton (the company's book valuation is about 6c.), this would represent an asset of around $20,000,000 or equivalent to about one-half of the company's outstanding capital stock. The average net profits of the company from its Sales Department for the six years were equivalent to 8% on this sum.

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current Assets	$6,329,878
Current Liabilities	4,814,354
Leaving a working balance of	$1,515,524

The amount of cash on hand was $1,026,799 and the balance to credit of profit and loss was $7,483,281.

Investment Value.

For a series of years the surplus earnings shown by the D. & H. have averaged above 12½%, while the average dividend payments has been under 7%. The market price of the stock has steadily risen from an average price of $121 in 1900 to $216 in 1906. The low price of 1903-4 was $149, the high price of 1906 $234, and in May, 1907, it sold as low as $160.

On the 7% basis of 1906, at the average price of that year, the yield to the investor was less than 3½%. It is a little difficult to understand these high quotations. The Delaware & Hudson has been very liberally maintained, but hardly more so than other roads like the Erie, the Lehigh Valley, and other similar roads. There is little in the published accounts to in-

dicate that it is actually earning 25% on its stock, as has been claimed. So far from that it is not clear that in 1906 any very large sums were concealed in operating expenses and the nominal surplus shown was probably much nearer the actual earnings of the company.

The proportion which a 9% dividend bears to its nominal surplus of 1906 (about 12%) is high, and when it is borne in mind that during the coal strike of 1902 the surplus earnings were cut nearly in half, the wisdom of the increase in dividend is not clear. It is certainly on nothing like so solid a basis as was the 7% dividend and even that dividend was threatened by the slump in earnings of 1902.

It is unquestionable that the price of all the coaler stocks has been greatly influenced by the spectacular rise in Lackawanna and in lesser measure by the rise in Reading. But after heavy maintenance charges the Lackawanna in 1906 was earning 40%, and paying out only half of this in dividends. Reading was earning conservatively about 14½% and paying 4%. When it is considered how vitally the Delaware & Hudson's earnings are dependent upon the prosperity of the coal industry, and that this means not merely the prevention of strikes, but the maintenance of prices and the continuance of general prosperity as well, it would seem that the stock can hardly be regarded otherwise than as a low yield investment with a rather high risk. That a reversion from prosperous conditions can easily take place is evident enough from the influence of the labor troubles in the spring of 1906, as reflected in the report of the road for the spring quarter. Three-fourths of the surplus shown in the corresponding quarter of 1905 was wiped out.

On a 9% basis there is considerable inducement to exchange the $24,000,0000 of outstanding convertibles, and this conversion, while reducing the fixed charges, would add over a million dollars to the dividend requirements, or an increase of more than 25%.

With its purchase of the Quebec Southern and the extensions contemplated, the Delaware & Hudson will add to its mileage by about a quarter and very considerably extend its range of influence. It seems highly probable, therefore, that its general rail earnings will continue to increase, so that relatively the company will be less dependent upon a single industry for its business. But it will be noted that its coal profits have shown a steady decrease since the quite unusual figure of 1903,

and in view of the Delaware & Hudson's high degree of dependency upon this single industry, the conservative investor will probably conclude that the investment yield on such a stock should be considerably higher than that on such standard stocks as the Pennsylvania, the New York Central, etc. He will find it difficult to understand why, for example, Delaware & Hudson should sell at much more than 25% premium above the Pennsylvania.

DELAWARE, LACKAWANNA AND WESTERN RAILROAD.

The "Lackawanna," as it is familiarly known, is one of the great anthracite "coalers," and one of the three largest holders of anthracite coal lands. It is one of the wealthiest and best conducted railroads in America, and is probably the only great road in the world which practically earns half its stock capital over again each year. Its main line runs from New York City through the anthracite coal regions to Buffalo, and considerably over one-half of its traffic is anthracite coal. With other coal and coke, this comprises about 60% of the road's total traffic. It is therefore highly dependent upon the prosperity of the coal industry for its own prosperity, and since the award of the Anthracite Commission in 1902, its net earnings have increased enormously.

History.

The road represents the consolidation, in 1853, of two small roads, and it was opened throughout in 1856. It has since acquired under lease the New York, Lackawanna and Western (214 miles), the Morris and Essex (157 miles), and several other small roads. The road was operated mainly as a coal carrier until 1882, when the line from Binghamton to Buffalo was built, and the company entered the field as a competior of the trunk lines between New York and the Great Lakes. Its mileage has not changed in the last ten years.

Ownership.

No single interest controls the road absolutely; practical control is divided between the Vanderbilt family and the Standard Oil interests. On its board of managers the Vanderbilt interests are represented by Frederick W. Vanderbilt and H. McK. Twombly; the Standard Oil interests by William Rockefeller, John D. Rockefeller Jr., and James Stillman, president of the National City Bank. The First National Bank is represented by George F. Baker, president, Harris C. Fahnestock, vice-president, and Wm. H. Moore, financial head of the Rock Island system.

Closely associated with the Standard Oil interests is Samuel Sloan, chairman of the Executive Committee, and long the president of the road, and now the vice-president of the National City Bank. The other directors are, Moses Taylor Pyne and H. A. C. Taylor, representing the Moses Taylor estate; J. Rogers Maxwell, chairman of the Executive Committee of the Central Railroad of New Jersey; Eugene Higgins, and Frank Work. The Executive Committee comprises Samuel Sloan, H. McK. Twombly, William Rockefeller, G. F. Baker, M. T. Pyne, and William H. Truesdale, president.

Affiliations.

The Lackawanna, though not one of the larger railroads of the country, is exceptionally independent, and has comparatively slight direct affiliations with any other road. It is not extensively interested in other roads, and its holdings, outside of the stocks and bonds of underlying companies, are not large. It does not figure especially as a member of the New York Central-Pennsylvania "Community of Interest" organization, though through the Vanderbilt and Standard Oil holdings, it is very closely associated with the New York Central, and is practically under the same ownership.

Capitalization.

As of Jan. 1, 1907, the capital account stood as follows:

Stock	$26,200,000
Funded Debt	3,067,000
Stocks & Bonds of leased lines	91,172,410
Total capital	$120,439,410
Securities held	18,191,813
Approx. net capitalization	$102,247,597

Approx. net capit. per mile	$132,789
Average miles operated	770
Net earnings on net capital	13.7%
Stock on net capitalization	25%
Fixed charges on Total Net Income	38%
Factor of Safety	62%

It will be seen that the nominal capital is small as compared with the total valuation of the operated mileage, and the amount paid in rentals on the underlying railroads is comparatively very high.

Of the $18,000,000 of securities held, those of underlying leased roads amounted to $6,363,350 par value. From the latter it derives 4% interest and from its total holdings the same.

The Lackawanna has no large equities in other roads.

The net earnings represent 13.7% on the estimated net capitalization, as against 8.1% for the Pennsylvania, and 5.8% for the New York Central. As compared with these two roads, therefore, the estimated capitalization is low.

Coal Lands.

After the Reading, the Lackawanna is one of the largest owners of anthracite coal lands in America. The government estimates of 1904 placed the amount of unmined coal on its lands at 400,000,000 tons, which compares with a similar estimate for the Lehigh Valley Railroad holdings, and of $2,450,000,000 tons for the Reading. These are the highest three.

In 1906, the coal operations of the company, including its own production and that purchased from individual operators, aggregated 9,172,743 tons, a very slight decrease from the year before. The total sales for the year aggregated $36,542,736, or an average of $3.99 per ton, almost identically the same figure as for 1905.

Net profits from coal operations were $3,655,119, or, including $609,021 expended for improvements, $4,264,140. Taking the latter figure, this was an average of 46c. per ton net profit, which was a slight decrease from the proceding year.

If, as has been done in the estimates of other anthracite coal holdings, the Lackawanna's unmined coal were taken at no more than 10c. per ton, its valuation would still be around $40,000,000. It may be assumed that the actual value of these holdings is considerably above this minimum estimate. If the net profits for 1905-6, after charging off very considerable sums for improvements, were averaged and capitalized on no more than a 6% basis, this would give a valuation to the company's coal property of around $50,000,000. It is probably actually not much less than this and quite possibly considerably more.

This is, of course, considering the coal property quite apart from its position as a tributary to the earnings of the road. Actually, for 1906, and for several years preceding, the transport of coal contributed one-half of the entire freight traffic of the road and the earnings per ton were very considerably higher than on merchandise traffic. The average ton mile rate on the coal traffic was .87c. as against an average merchandise rate of .69c. and the rail earnings per ton of coal transported were $1.50 per ton as against $1.08 per merchandise ton.

These coal rates were undoubtedly high, though they have not increased from the general bed-rock year of 1899. But the average ton mile rate compares with an average rate on all traffic on the Norfolk & Western, for example, of only .48c. per ton and a somewhat similar rate on the Chesapeake & Ohio and the Baltimore & Ohio. Such figures could be obtained only from what amounts practically to an absolute monopoly of the anthracite coal business, and it is this fact which gives an element of instability to the earnings of the Lackawanna and other anthracite coalers.

Style of Capitalization.

The amount of bonds issued directly by the Lackawanna, $3,067,000, stands against $26,200,000 of common stock. The common stock represents only 25% of the estimated net capitalization, as against 33% for the New York Central, and 53% for the Pennsylvania. This would ordinarily be very low, but the earnings of the road are extraordinarily high. Thus Fixed Charges represented only 38% of the total net income, which according to the method here employed, represents a Factor of Safety of 62% for the underlying securities. That is to say, the net income of the road could decline by three-fifths before the interest and rental paying power of the road was impaired. This compares with a Factor of Safety of only about 36% on the New York Central, and with 62% on the Pennsylvania.

The approximate Net Capitalization per mile of road operated is high; its $132,789 compares with an estimate of $145,566 for the Pennsylvania, of $123,188 for the New York Central. If the rentals paid by the Lackawanna had been capitalized at 4%, as has been done in the case of the other two roads, instead of taking the actual amount of the stocks and bonds of the leased roads, as was possible from the Lackawanna reports, but

not for the other roads, this estimate would be raised considerably. But on the other hand no account is taken of the value of the Lackawanna's coal holdings, which might reduce the estimated net capitalization by perhaps 50%.

Increase of Capitalization.

The nominal capital of the road has not changed in the six years, while its gross earnings have increased more than 50% as follows:

Year	Common Stock	Funded Debt	Total	Gross Earnings
1900.............	$26,200,000	$3,067,000	$29,267,000	$20,887,763
1906.............	26,200,000	3,067,000	29,267,000	32,962,880

Net increase over six years: Nominal Capital, nil; Gross Earnings, 56%.

Character of Traffic.

As already noted, some 60% of the Lackawanna's traffic is represented by the coal business of the road. The following tables, prepared by the *Wall Street Journal*, show Lackawanna's percentage of gains in earnings from its three principal sources:

Year.	Gross earn. from coal.	Gross earn. gen. mdse.	Gross earn. passenger.
1905...	$13,993,585	$9,230,787	$5,529,002
1904...	13,230,870	8,337,823	5,215,919
1903...	13,826,844	8,354,908	5,083,142
1902...	8,145,920	7,013,424	4,592,036
1901...	10,709,344	6,668,689	4,522,383
1900...	8,535,324	6,660,186	4,186,232
1899...	9,407,796	6,300,149	3,951,051
Increase six yrs.	$4,585,789	$2,930,638	$1,577,951
Per cent. increase	48%	46%	39%

That rates have in the period referred to affected the question of increased earnings but little, one way or the other, is evident from the following:

Rate per ton mile (cents):

Year.	Coal.	Mdse.	Pass.
1905	0.87	0.68	1.42
1904	0.86	0.70	1.41
1903	0.86	0.70	1.43
1902	1.11	0.70	1.45
1901	0.89	0.68	1.41
1900	0.92	0.69	1.48
1899	0.94	0.67	1.51
Inc. in 6 years	0.07	0.01	*0.09
Inc. per cent	7½%	1½%	*6%

*Decrease.

The tonnage of merchandise has increased about equally with that of coal, but it is the ton mileage figures on coal that show a large gain, offering some explanation of the larger gain in coal traffic receipts. The passenger traffic has shown a gain of nearly 50%.

Stability of Earnings.

Despite the fact that the road is so closely dependent on a single industry, its traffic earnings have been remarkably steady, though since the settlement of the coal strike by the Commission of 1902 they have shown a very heavy increase, as will be seen from the following table; they averaged around $22,000,000 per year from 1896 to 1903, and then jumped by almost half.

Year	Miles Operated	Gross Earnings	Gross Earnings Per Mile
1896	771	$21,403,506	$27,756
1897	771	21,002,017	27,239
1898	771	22,168,344	28,752
1899	771	21,325,122	27,659
1900	771	20,887,763	27,091
1901	771	23,507,634	30,481
1902	771	21,398,764	27,754
1903	770	29,180,964	37,897
1904	770	28,701,991	37,275
1905	770	31,951,063	41,496
1906	770	32,962,880	42,888

It will be seen that the company's earnings are largely dependent upon the maintenance of the present amicable conditions, and the prosperity of the road therefore hangs very closely upon

the ability of the management to maintain the present satisfactory arrangements with its operatives. A coal strike would affect its earnings profoundly.

Maintenance.

The traffic density of the road is very high, amounting for 1906 to 3,868,000 ton miles per mile of road operated. The average for seven years was 3,163,000 as compared with 4,130,000 for the Pennsylvania.

Maintenance charges with the Lackawanna have for years been very large, as the table below will show. For 1906 they amounted to $10,190 per mile of road operated, a figure which is surpassed only by the Pennsylvania. For a series of years the figures were as follows:

Year	Traffic Density	Maintenance per Mile		Total per Mile
		Way	Equipment	
1900	2,445,032	$3,996	$3,601	$7,597
1901	2,832,759	4,288	3,183	7,471
1902	2,247,883	4,388	3,518	7,906
1903	3,598,454	4,738	3,627	8,365
1904	3,526,933	5,085	3,815	8,900
1905	3,826,713	6,034	3,734	9,768
1906	3,868,820	6,412	3,778	10,190
Average	3,163,799	$4,991	$3,608	$8,599
Erie..........	2,588,317	1,245	2,890	4,733
Penn.........	4,130,690	3,752	5,232	8,984
Reading......	3,420,895	3,033	5,181	8,215

Extra track, 480 miles.

Improvements from Earnings.

The policy of setting aside large sums for betterments and renewals has been pursued for a series of years, as follows:

1901..................................	$2,523,127
1902..................................	3,058,148
1903..................................	4,319,166
1904..................................	3,446,719
1905..................................	3,587,485
1906..................................	5,551,618
Total for six years...........	$22,486,263

This is equivalent to 86% on the capital stock.

In addition to this, the following extraordinary expenditures are reported by the road as included in operating expenses:

1901	$1,228,954
1902	1,632,737
1903	1,478,106
1904	1,715,523
1905	2,281,881
1906	2,174,936
Total for six years	$10,512,137

The combined sums included in these two tables ($32,998,-400) were equivalent to $42,855 per mile, or rather more than the entire actual cost of many western roads. In other words, in six years, the working part of the road has been practically reconstructed. In six years 71,747 tons of 80-lb. steel rails have been laid on 957 miles of single track operated; equipment has been increased by 346 modern locomotives, 6,000 box cars and 5,000 coal cars; while millions of dollars have been spent for new terminals, steel bridges, straightening out tracks and reducing grades.

Surplus Earnings.

The earnings of the Lackawanna on its capital stock have of late years become simply enormous. For 1906 they were $5,827,071, after charging off $5,551,618 for renewals and betterments. Had the latter been included, the surplus would have represented 43% on the capital stock of the road, and this was after high maintenance charges. Deducting betterments, the remaining surplus still represented 22.4% on the stock. For a series of years, the items compare as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
		%	%	
1900	$2,560,381	9.5	7	223
1901	5,553,183	20.8	7	222
1902	2,711,496	10.1	7	273
1903	10,404,404	39.	7	249
1904	10,220,590	38.4	7 (10 ext.)	282
1905	11,525,913	43.9	9¼ "	409
1906	11,378,689	43.4	10 "	504

Dividend Record.

The Lackawanna formerly paid 10% on its capital stock, but in the dull years of 1876-80, the dividends were passed. In the latter year, 3% was paid; in 1881, 6¾%; in 1882-4, 8%; early in 1885, 7½%; and since then 7% yearly, up to 1904. In 1904 an extra dividend of 10% was declared, making 17% in all; in 1905 the road was placed on a regular 10% basis, which with 10% extra, made 20% for the year. The same was paid in 1906.

The Balance Sheet.

As of December 31st, 1906, the balance sheet, excluding materials and advances to leased roads, showed:

Current Assets	$9,859,449
Current Liabilities	7,825,581
Leaving Balance of	$2,033,868

The amount of cash on hand was $2,324,314 and the surplus to credit of profit and loss was $24,395,584.

From this it would appear that the company was not overly provided with ready capital, but included in the liabilities was $1,534,184 of rentals not yet due, and in addition to this, the company had advanced to leased and controlled roads, $2,118,385.

Investment Value.

The Lackawanna stock sold on May 24th, 1906, at $560 per share, about the highest price ever known for any road of considerable extent in this country. This represented a rise from $230 in 1903, and from $171 in 1900. The highest price paid in 1902 was $297. The average for 1906 was around $500 per share.

On a 20% basis this represents a yield to the investor of only 4%, with time money ruling at 5% or over. On its face this represents a seemingly high valuation for the stock; on the other hand, the amount paid in dividends in 1906 represented only 46% of the actual earnings on the stock, even after a more liberal policy as to betterments and improvements than is pursued in the generality of roads. The company states that in its operating expenses for 1906, $2,174,936 of extraordinary expenditures was included, and this with the $5,551,618 set aside for renewals and betterments, represents a sum largely in excess of the dividend payments.

Disregarding the extraordinary expenditures included in operating expenses, the 20% dividend was still less than half of

the actual surplus earned. That is to say, the surplus could be decreased by half before the present dividend payments would be imperiled. Virtually, therefore, over and above the 20% dividend, the stock represents an equity on the basis of 1906 earnings, of rather more than an additional 20%. It is this which accounts for the high selling price of the stock.

The first six months of 1906 showed a very considerable decline, due to the coal difficulties in the Spring of the year. Gross earnings for the spring quarter of 1906 showed a decline of about 18%, cutting down the available surplus for the quarter by 60%. Though this was fully made up later in the year, it will be seen how vitally sensitive Lackawanna is to the maintenance of its coal operations. A similar decline for the whole year would have wiped out the larger part of the nominal surplus, and certainly necessitated a heavy cut in the dividend, and supposing expenses to have declined proportionately, would probably have put the road back on a 7% basis.

Despite its enormous earnings, therefore, Lackawanna is a highly speculative investment, and a Factor of Safety of something like 100% on its present dividend is none too small. Setting aside for renewals and betterments an amount equivalent to about 20% on its capital stock, is no more than careful, conservative management, and a further very heavy increase in the Lackawanna's dividend would probably be regarded a distinct departure from its excellent traditions. An unbroken continuance of the flush times of the last three years can scarce be expected, so that, putting back so heavy a proportion of earnings into the road is simply intelligent anticipation of the inevitable rainy day.

From the foregoing the investor should be able to make up his own mind as to the value of the stock. It seems improbable that at $400 a share the stock would actually yield more than 4% on the investment through a series of years. On the other hand, the maintenance of this dividend rate, barring strikes, seems not improbable. At $400 per share, it would be to most investors in stocks an attractive purchase. Above this figure it is a pure gamble on the continuance of prosperity and the prevention of strikes. The stock is closely held and very little of it is thrown upon the market, even in pressing times. This fact makes it very easy to run the price of the stock up to a high figure on comparatively small sales.

DENVER AND RIO GRANDE RAILROAD.

The westernmost portion of the Gould system of railways is at present the Denver and Rio Grande, which carries the Gould lines from the western end of the Missouri Pacific at Pueblo, in Colorado, through an extensive network of lines to Denver on the north, and to Salt Lake and Ogden on the west. The system embraces the Denver and Rio Grande proper, with a main track from Denver to Grand Junction, the Rio Grande Western from Grand Junction to Salt Lake and Ogden, and the Rio Grande Southern Railroad, operating in western Colorado. The latter road, is, however, under separate management.

The Rio Grande penetrates the rich mineral districts of the Rockies and extensive coal fields as well. It is likewise famous as a scenic line and enjoys a large tourist traffic on this account.

With the completion of the Western Pacific, which is being financed through the Denver and Rio Grande, the latter will become an important link in a transcontinental line. At the present time it is on its western connections completely dependent upon the Union Pacific system, now hostile to it, by reason of the Western Pacific undertaking.

History.

The Denver and Rio Grande has had a tumultuous history. Organized in 1870, its earlier years were mainly a series of fights, sometimes in the courts, but more often in the canyons, for feasible rights of way through the mountainous territory which it occupies. Originally designed to extend from Denver to El Paso, the project was stopped and turned westward rather than southward through a treaty of peace with the Atchison.

For a considerable time the Denver and Rio Grande enjoyed more or less of a monopoly of its territory, but this was broken through the building of the Colorado Midland by the Atchison.

Increasing competition, too rapid extension, together with rank dishonesty in the old management combined to throw the road into the hands of a receiver in 1886. It was then reorganized as the Denver and Rio Grande Railroad, and the Fixed Charges were so reduced as to enable the company to weather the bad years of 1893-7 without a second receivership. Meanwhile the troubles of the Atchison threw the Colorado Midland into a receiver's hands and with the ensuing reorganization, the latter road passed to the joint control of the Colorado Southern, now a part of the Hawley lines, and the Rio Grande Western, in turn controlled by the Denver and Rio Grande.

Originally a narrow gauge road, the larger part of the system has been changed to standard gauge, so that the mileage now stands as follows:

Standard Gauge....................	1,619	miles.
Narrow Gauge....................	913	"
Total..................	2,532	"
Double track......................	62	"

Ownership.

After having been operated for a number of years as an independent line, the Denver passed to the Gould interests in 1901. In that year the Missouri Pacific acquired $7,300,000 of the preferred and $14,800,000 of the common stock. It is understood that the Rockefeller holdings in the road are extensive, and that these, with the Gould and Missouri Pacific's, are sufficient to ensure control. But the Rockefellers are not openly represented in the directorate of the Denver, nor in the Colorado Fuel and Iron Company, an industrial corporation closely associated with the Denver and Rio Grande Railroad.

The board of directors consists of George J. Gould, chairman, also president of the Missouri Pacific; Edwin Gould, Howard Gould, E. T. Jeffery, president, and A. H. Calef, asso ciated in various Gould enterprises; Winslow S. Pierce, counsel, also director in the Wabash and other Gould roads; Arthur Coppell, of Maitland, Coppell & Co., bankers, New York; Charles H. Schlacks, vice-president, and Joel F. Vaile, general counsel,

Denver Colo. The affiliations are now exclusively with the other Gould lines.

Up to 1905, Mr. Harriman was represented on the board of the Denver, and Mr. Gould in his turn was represented in the Union Pacific. These relationships were broken off in 1905 when the construction of the Western Pacific was begun.

Capitalization.

The capitalization of the road on June 30th, 1906, stood as follows:

Common stock	$38,000,000
Preferred stock	45,712,700
Total	$83,712,700
Funded debt	78,221,100
Nominal capital	$161,933,800
Rentals cap. at 4%	5,050,000
Approximate Gross capitalization	$166,983,800
Securities held	35,727,400
Approx. net capitalization	$131,256,400
Approx. net capital. per mile	$52,990
Miles operated	2,477
Net earnings on net capital	5.7%
Stock on net capital	63%
Fixed Charges on total net income	52%
Factor of Safety	48%

For a road with gross earnings of $7,500 per mile, the Denver is rather heavily capitalized, but this is generally true of the Pacific roads. Its capitalization of $52,990 per operated mile stands against $58,887 for the Atchison and a somewhat similar figure for Union Pacific. Net earnings on the estimated capital show only 5.7%, which for a western road means a relatively high capitalization, though the stock represents 63% of the estimated net capitalization, and the Fixed Charges consume only 52% of the Total Net Income. The style of capitalization therefore, is well adapted to ward off another visit of the sheriff. Moreover no dividends have ever been paid upon the $38,000,000 of common stock, this latter representing merely a possible absorbent of future surplus.

Equities Owned.

The Denver holds in its treasury the entire stock of the Rio Grande Western Railroad. The two roads are operated together, and the bonds of the latter are included in the statement of the funded debt of the Denver. The Denver owns $3,158,237 stock of the Rio Grande Southern, comprising a majority, and it guarantees $2,277,000 bonds of the latter railway. Other minor securities bring up the total as carried upon the books to $25,624,486. Further securities of a book value of $9,768,063 are deposited with the Morton Trust Company, in which the chief item is $10,000,000 stock of the Utah Fuel Company. These securities are deposited as collateral for certain first consolidated mortgage bonds of the Rio Grande Western Railroad.

Deducting from the book value of the securities owned, the item of $20,750,000, cost of the stock of the Rio Grande Western, whose earnings are included as part of the Denver's earnings, we have a net of $17,000,000 from which the company derived for the year of 1906 an income of $167,800, or less than one per cent.

With the completion of the Western Pacific, the Denver & Rio Grande will have in its treasury $50,000,000 of stock representing no money outlay other than such as may be necessary to make good the guarantees which are given in payment of the stock.

Increase of Capitalization.

It will be seen from the following table that in the six years from 1900 the capitalization increased by half, while the gross earnings nearly doubled.

Year	Common Stock	Preferred Stock 5%	Funded Debt	Total	Gross Earnings
1899–0...	$38,000,000	$23,650,000	$43,219,500	$104,869,500	$10,246,759
1905–6...	38,000,000	45,712,700	78,221,100	161,933,800	19,686,114

Net incrase over six years: Nominal capital, 55%; Gross earnings, 92%.

Character of Traffic.

The following shows the percentage of tonnage and revenue from various classes of freight for the year ending June 30th, 1906:

	Tonnage %.	Revenue %.
Agriculture	6.86	8.41
Animals	5.68	5.85
Mines	5.21	52.71
Lumber	4.46	4.53
Manufactures	12.31	10.44
Miscellaneous	17.57	18.06

The largest single item was coal and coke, which made up 28% of the total tonnage. Precious ores stood next, with 16%. The traffic is therefore highly varied and not dependent on any single industry.

Stability of Earnings.

The Denver's mileage has increased very slightly in ten years, while the gross earnings have doubled.

Year	Miles Operated	Gross Earnings	Per Mile
1896–7............	2,212	$9,413,618	$4,256
1897–8............	2,232	11,705,213	5,244
1898–9............	2,254	12,623,235	5,600
1899–0............	2,294	14,756 683	6,433
1900–1............	2,330	16,359,610	7,021
1901–2............	2,347	17,036,828	7,259
1902–3............	2,378	17,304,560	7,277
1903–4............	2,398	16,446,435	6,859
1904–5............	2,420	17,031,507	7,038
1905–6............	2,477	19,686,114	7,498

The earnings per mile increased from $4,256, in 1896, to $7,500 in 1906. This is an excellent showing, and inasmuch as the increase has been steady, there seems to be no reason to suppose that with the development of Colorado's resources this improvement should not continue. From the augmented through traffic which should come with the completion of the Western Pacific, the Denver should draw still further profits.

Maintenance.

The following shows the mileage appropriations for maintenance through a series of years:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	Not reported	$ 928	$652	$1,580
1901–2.......	425,185	1,046	732	1,778
1902–3.......	416,424	964	817	1,781
1903–4.......	355,835	907	800	1,707
1904–5.......	368,653	825	839	1,664
1905–6.......	435,344	975	1,036	2,011
Average....	400,288	$940	$812	$1,752
Extra main track, 62 miles.				
Atch.......	577,005	1,123	1,113	2,236
Union Pac..	739,206	1,173	1,049	2,222

These figures do not look overly liberal, but it should be recalled that one-third of the total mileage is narrow gauge, which can be maintained much more cheaply than the standard gauge. Furthermore, the company has very little extra main track. The maintenance of equipment was equivalent to $2,276 per locomotive, $606 per passenger car, and $56 per freight car.

Of the locomotives in use, 142 out of 486 are narrow gauge; one-third of the passenger cars, and one-fourth of the freight cars. In view of this the maintenance was probably sufficient, without, however, concealing large amounts of profits.

Improvements.

Since 1901 the sum of $120,000 annually has been set aside from the earnings as a renewal fund, and from the surplus earnings the following amounts have been devoted to betterments and new equipment:

1902-3..................................	$417,517
1904-5..................................	283,915
1905-6..................................	1,150,000
Total........................	$1,851,432

These amounts against annual maintenance charges of four or five million dollars are not very high.

Surplus Earnings.

The surplus shown over charges for six years was as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Average Price Pref.	Average Price Com.
1900–1	$2,053,422	5	2.3	91	41
1901–2	3,202,625	5	2.6	92	44
1902–3	2,962,561	5	2.	76	30
1903–4	2,574,413	5	0.7	77	27
1904–5	2,932,452	5	1.7	87	33
1905–6	3,712,473	5	3.3	88	44

It will be seen that nominally the company has for some years earned a small percentage on its common stock.

Dividend Record.

The dividend record since 1887 is as follows:

Year.	Preferred	Common.
1887	2½	..
1888	2½ and 1¼ scrip.	..
1890	2¾	..
1891	2½	..
1893	2	..
1896-7	2	..
1898	2½	..
1899-00	4	..
1901-6	5	..

It was fifteen years after the reorganization of the company before it was able to pay the full five per cent. on its preferred stock, but this has been paid regularly for the last six years. On the basis of the exceptionally prosperous year of 1905-6, the margin of safety, if we exclude special appropriations for betterment, was 18%, but this surplus was something beyond anything that had before been shown by the road. On a five years basis the margin of safety as to the preferred would be less than 10% on the total net income.

Present Conditions.

The general balance sheet as of June 30, 1906, showed as follows:

Current assets	$9,767,419
Current liabilities	5,610,430
Leaving a working balance of	$4,156,989

The credit to profit and loss, including renewal fund, was $3,642,930.

Investment Value.

The future of the Denver and Rio Grande is bound up on the one hand in the prosperity of Colorado and Utah; on the other hand, the success of the Western Pacific.

The resources of Colorado have been considerably augmented by introduction of scientific methods of farming, both through irrigation and through banking the top soil. The state has thoroughly recovered from the depression due to the decline of the silver industry. It has rich coal fields which are developing rapidly, and from its varied resources it is probably in as good a position to stand some recession from recent prosperity as any state in the Union. Should the rise in the price of silver continue, this would mean a revival in silver mining, which would still further contribute to its solidity.

The state of Utah is settled by a remarkably frugal and industrious people who farm by means of irrigation, which forms as solid a basis for agriculture as can be conceived. The mineral resources of Utah are immense, and show a steady development.

On the side of local traffic, therefore, there seems every reason to believe that within the next ten years the traffic of the Denver and Rio Grande should continue to show a steady increase, perhaps not equal to that of the last ten years, but certainly sufficient to predict a prosperous future for the road.

The construction of the Western Pacific was virtually forced by the change in ownership of the Central Pacific line; that is to say, the Southern Pacific Railroad. When the latter came under the control of the Union Pacific it was easy to see by the aggressive policy of the Union Pacific's management, that the Denver and Rio Grande would be in a less favorable position as regards through traffic than formerly.

By undertaking a contingent liability, the Denver and Rio Grande and the Rio Grande Western together receive two-thirds of the capital stock of the new Pacific line, and if the latter turns out to be as feasible a project as it now seems, this should, in the course of time, become a source of considerable revenue, both directly and indirectly to the Denver road.

In view of all this, should the excellent management of the Denver continue, its stock would seem to present as favorable an investment, for a long pull, as perhaps any on the market.

The preferred stock of the Denver is limited to five per cent. and is non-cumulative. Unless a very drastic setback should come, the full dividends on this stock seem fairly well assured, though a glance at the table of surplus earnings will show that it is not without risk. The prices at which it has ruled obviously take this risk into consideration. A solid 5% stock, with 4%, money, should sell between par and 125. Denver preferred, in the last four years, has ruled between 62 and 103. It sold up to the latter figure in the very prosperous year of 1901-2, and it sold off to 62 in the general slump of 1904, rising again to 91 in 1905. In the general decline of 1907 it sold down to 70. At anything like the latter figure it would seem to present an attractive purchase, though it is obvious that it might sell lower. Very many investors do not like to touch a stock where new construction is under prospect, and the building of the Western Pacific is to all intents and purposes a new division of the Denver and Rio Grande.

The price of the common stock has fluctuated very widely. It was run up to 53 in 1901, and to 52 in 1902. It slumped to 18 in the general decline of 1903-4, rising again to 51 in 1906. It sold below 25 in the general decline of 1907. At somewhere around the low point of 1907, that is, somewhere below 25, it would certainly seem to offer inducements to the investor who would put his stock by and hold it for a number of years. Bought at something like these low prices, it could probably be sold at a handsome profit when it rose again, to be repurchased lower down if the high prices did not hold. By watching the earnings of the road, the investor would be able to determine whether a very considerable rise in the price was justified, and again whether the stock seemed worth purchasing at lower levels.

A brief discussion of the Western Pacific project will be found under that heading.

DETROIT, TOLEDO AND IRONTON—ANN ARBOR SYSTEM.

This new system was formed by the purchase in June of 1905 by the Detroit, Toledo and Ironton, of about three-quarters of the stock in the Ann Arbor Railroad, placing the two roads under a single management. The D. T. I. is a reorganization of the Detroit Southern and operates a line from Detroit, via Lima, O., to Ironton on the Ohio River, and its main business is the haulage of soft coal. The Ann Arbor extends from Toledo northwesterly to Frankfort on Lake Michigan, with a line of ferries to various points in northern Wisconsin and northern Michigan.

The combined roads have a total mileage of 727 miles, and showed gross earnings in 1906 of $4,090,208, or an average of $5,488 per mile.

The Detroit Southern passed into a receiver's hands in 1904, and was reorganized in May of 1905. In June of 1905 it issued $5,500,000 of collateral trust notes in purchase of $3,010,000 par value out of a total of $4,000,000 preferred stock of the Ann Arbor, and $2,190,000 par value out of a total of $3,250,000 of Ann Arbor common. The Ann Arbor had up to that time been dominated by Gould interests and its president—Joseph Ramsay—was also president of the Wabash.

Ann Arbor preferred, in the first half of 1905, sold in the market at from $66 to $79 per share, and the common at from $34 to $37 per share. Taking the higher figures in each case, this would give a total valuation for the purchase of the D. T. I. of about $3,000,000, which stands against $5,099,000, the valuation at which this stock is carried on the books of the Ironton road. This, apparently, represented a very comfortable price, or margin of profit, for some one.

The D. T. I. is building a bridge across the Ohio River at Ironton, and it was announced that the same interests in control of the Ironton are building an independent line from Ashland, Ky., to Pound Gap in the same state, a distance of 125 miles, affording

connection with 350,000 acres of coal lands owned by these parties. This would give the owners of the latter a very direct route from their Kentucky coalfields to Lake Erie, and the construction of this line would very materially enhance the traffic of the Ironton road.

Ownership.

The interests in control of the new system are much the same as those who had control of the Cincinnati, Hamilton and Dayton, and who engineered the merger of the latter, the Pere Marquette and the Chicago, Cincinnati and Louisville, shortly before the first two of these roads passed into the receiver's hands. The directorate includes Eugene Zimmerman, president of the Cincinnati, Hamilton and Dayton up to the sale of the control of that road to the Morgan interests in 1905; George M. Cumming, president of the United States Mortgage and Trust Company and chairman of the board of directors of the Wisconsin Central under its new regime, formerly a director in the C. H. & D.; Joseph S. Auerbach, director in various banking companies in New York; F. J. Lisman, of F. J. Lisman & Company, bankers, New York, and vice-president of the defunct Detroit Southern; T. D. Rhodes, New York; J. H. Scoville, a director in the Interborough of New York City; Benjamin S. Warren, Detroit; Bernard J. Burke, vice-president, New York; Frank A. Durban, second vice-president, Zanesville, Ohio.

The Ann Arbor board includes Messrs. Zimmerman, Cumming, Burke, Durban, Scoville and Warren of the D. T. I. board; Rudolph Kleybolte, formerly director in the Cincinnati, Hamilton and Dayton under the Zimmerman management; H. B. Hollins, Jr., J. E. Watson, and James E. Tolfree, New York; and M. L. Sternberger, Wallston, Ohio.

Capitalization.

In 1906, including two months of the operation of the reorganized company, and ten months of the old Detroit Southern in the hands of the receivers, the D. T. I. on gross earnings of $1,468,000, showed net earnings of $153,695. This was insufficient by $286,000 to meet the interest payment on the road. This road, earning only $3,367 per mile, and showing a deficit, was provided with a modest capitalization of $25,000,000 of stock, not new capital but simply stock issuable for old securities. In

the purchase of the Ann Arbor it issued $5,500,000 of collateral trust notes already noted and pledged further as security on these notes, $5,000,000 of its collateral trust bonds. These issues, with some $2,000,000 of equipment trust notes, brought the total indebtedness of the road to $24,926,465, at the close of the fiscal year of 1906.

Adding in the bonds, and the outstanding stock of the Ann Arbor not held by the D. T. I., the capital account of the system on June 30th, 1906, stood as follows:

Common stock	$12,500,000
Preferred stock, 1st	7,500,000
Preferred stock, 2d	5,000,000
Total stock	$25,000,000
Funded debt D. T. I.	24,926,465
Ann Arbor bonds	7,000,000
Stock outstanding, common	1,060,000
Stock outstanding, preferred	990,000
Total capital	$58,976,465
Securities held	10,932,603
Approx. net capital	$48,043,862
Approx. net capit. per mile	$66,084
Average miles operated	727
Net earnings on net capitalization	2.8%
Stock on net capitalization	45%
Fixed Charges on Total Net Income	87%
Factor of Safety	13%

In the securities owned are included $5,000,000 D. T. I. bonds pledged as security for the collateral trust notes and $750,000 of the same bonds held in the treasury. The Ann Arbor stock is taken at the valuation given in the report, $5,099,000, which is very near the par value of the stock. The Ann Arbor company showed a surplus in 1906 sufficient to pay the full 5% on the $4,000,000 of preferred stock, and show nearly 7% on the common.

It will be seen that the approximate net capitalization of the road, earning in 1906, $5,488 per mile, was $66,084 per mile.

This stands against an estimated net capitalization of $78,000 per mile on the Lake Shore, with gross earnings of $25,395 per mile. The net earnings for the system for 1906 showed 2.8% on the net capitalization as against 13% on the Lake Shore. Eliminating the securities issued in purchase of the Ann Arbor property, the D. T. I. proper showed net earnings in 1906 of 1.4% on its net capitalization.

Including the outstanding Ann Arbor stock, the total stock of the system represented 45% of the estimated net capitalization, but Fixed Charges consumed 87% of the Total Net Income, leaving but a very small Factor of Safety for the underlying securities. Including all its Ann Arbor Collateral trust notes, the D. T. I. showed a deficit of $270,000, which is about equivalent to the interest charges on these notes. Excluding these latter the road barely earned its Fixed Charges on its own securities in 1906.

Traffic and Earnings.

On the Ann Arbor road the passenger business makes up about the usual percentage of the gross earnings; that is to say, a little less than 25%. Of its freight tonnage, the largest single item is bituminous coal, 23%, and lumber and logs, 27%. The balance of its traffic is broadly distributed. On the other hand the D. T. I. is almost exclusively a freight road, passenger earnings making up less than 10% of the gross. In turn, of the freight traffic, 59% is products of mines, of which the chief item is bituminous coal, 40%. These facts should be recalled in considering the maintenance charges on the two parts of the system.

The mileage and gross earnings of the two roads for five years compare as follows:

Year	Det. Sth. Mileage	Gross Earnings	Ann Arbor Mileage	Gross Earnings	Total	Total
1901–2	381	$1,239,906	292	$1,893,410	673	$3,133,316
1902–3	381	1,444,900	292	2,037,215	673	3,482,115
1903–4	438	1,488,938	292	1,979,047	730	3,467,985
1904–5	436	1,468,299	292	1,922,593	728	3,390,892
1905–6	436	1,914,977	292	2,175,231	728	4,090,208

It will be seen that the gross earnings of the combined roads were about stationary through the four years preceding the consolidation under a single management.

The increase in 1906 was due to the very general increase in tonnage distributed over both systems. The total tonnage of the Ann Arbor increased from 1,373,000 tons to 1,775,000 tons, while the tonnage of the D. T. I. increased from 1,783,000 tons to 2,249,000. This very heavy increase in traffic was obtained at a considerable reduction in the average rate received, the rate on the Ann Arbor declining from .67c. in 1905 to .56c.; and on the D. T. I. from .50c. to .45c. The result was a very heavy increase in the traffic density, without a corresponding increase in the gross earnings. There was at the same time a very heavy cut in the ratio of operating expenses which took 78% of the gross of the combined roads in 1905, and only 67% in 1906. The report of the D. T. I. states "the road has benefited during the past year by the reduction of grades and the use of heavier engines. In 1906 we handled 391 tons of freight per train compared with 283 tons in 1905, an increase of 38%."

It was by this means that, with a considerable reduction in the average rates received, the ratio of the cost of conducting transportation to gross earnings remained about the same. It was 37% in 1905 and 38% in 1906, on the D. T. I. and 33% and 35% respectively on the Ann Arbor.

Maintenance.

It follows from the showing above that the heavy reduction of the operating ratio was accomplished not through a lowered percentage of the cost of conducting transportation, but through a lessened share of the gross earnings devoted to maintenance. The following table shows the maintenance charges on the D. T. I. for a period of several years:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1901–2	487,252	$493	$558	$1,051
1902–3	534,712	537	607	1,144
1903–4	490,805	534	743	1,277
1904–5	518,578	725	724	1,449
1905–6	756,277	627	693	1,320
Average	557,524	$583	$665	$1,248

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Wabash.......	880,032	$1,332	$1,370	$2,702
Lake E. & W...	592,307	999	733	1,732
Vandalia.......	910,426	1,184	1,683	2,877

(Av. 1905–6)

First as to the D. T. I., it will be seen that the traffic density rose in 1906 very nearly 50% over the previous year, while the amount of the total maintenance of way declined $102 per mile. There was likewise a lessened appropriation for maintenance of equipment. Comparing the road with two or three of its neighbors, it will be seen, for example, that the Lake Erie and Western, a Vanderbilt road, with about the same traffic density, spent in 1905 on the average $500 per mile more in maintenance than the D. T. & I. for 1906. This was also the actual difference in the total expenditures for maintenance in 1906 between the two roads; while the traffic density of the Lake Erie and Western was considerably lower than the D. T. I.

The maintenance items of the Ann Arbor for a series of years have been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	654,966	$1,194	$1,043	$2,237
1901–2	685,838	1,408	918	2,326
1902–3	700,619	1,288	996	2,284
1903–4	624,333	1,106	1,092	2,198
1904–5	661,934	1,056	959	2,015
1905–6	944,505	1,029	1,028	2,057
Average	712,032	$1,180	$1,006	$2,186

It will be seen that likewise on the Ann Arbor, with an increase of traffic density in 1906 nearly 50% over the previous year, there was actually a less expenditure in maintenance of way but a slightly increased expenditure for equipment, so that the total expenditures for maintenance for the year were practically the same with half again as much freight traffic and an increase of a quarter of a million dollars in gross earnings.

Surplus Earnings.

Despite a considerable increase in taxes, the Ann Arbor showed an increase in surplus of from $266,298 in 1905 to $430,704 in 1906. The surplus shown in 1906 was the highest in recent years, so that the increase for 1906 seemed very decided improvement. But as already noted, this result was reached principally by a decreased percentage in the appropriations for maintenance.

Net earnings on the D. T. I. increased from $153,000 in 1905 to $559,000 in 1906. In 1905 appropriations for maintenance consumed 42% of the gross earnings; in 1906 they consumed 31%, or a reduction of about one fourth.

As already noticed, the cost of conducting transportation increased slightly. In the same year, interest and taxes increased nearly $400,000, in which the principal item was $275,000 interest on the collateral trust notes, against which the road received no direct income. As a result of this increase in charges the deficit for the year remained about the same as that of the previous year, that is to say, $279,941. Had the Ann Arbor paid 5% on its preferred stock, as it was amply able to do, the D. T. I. would have received from this source $155,000, and there would have still remained a divisible surplus, equivalent to 7%. Had the entire amount of this divisible surplus been distributed, the share of the D. T. I. would have been another $155,000, so that the combined amounts would have paid the interest charges and left something over.

The Ann Arbor road had an actual cash balance of current assets over current liabilities at the close of the year considerably exceeding its earnings for the year, so that the system did not have to borrow money outside to meet the nominal deficit.

The Balance Sheet.

At the close of the fiscal year of 1906 the Ann Arbor road showed:

Current assets	$1,129,580
Current liabilities	427,857
Leaving a working balance of	$701,723

There were items of cash in the treasury of $43,280, and cash in other depositaries, $828,021. The credit to Profit and Loss was, $1,258,671.

During the year the Ann Arbor road paid in back taxes to the state of Michigan, $339,392, charged to Profit and Loss. This amount was due under the new Michigan tax law, the legality of which had been contested by the railroads of that state but finally decided in the state's favor. The net increase of the Profit and Loss credit for the year was therefore only $91,000.

The balance sheet of the D. T. I. showed

Current assets	$521,700
Current liabilities	496,347
Leaving a working balance of............	$25,353

There were items of cash in the treasury of $49,025, and cash in other depositaries of $156,373.

The debit to Profit and Loss at the close of the year was $305,380, an increase of $270,941 for the year.

Investment Value.

There is outstanding about $1,000,000 of Ann Arbor preferred, and somewhat more than this amount of the common stock. If the D. T. I. remains solvent, the possessors of this stock should be in a very comfortable position, for the D. T. I. has paid for 70% of this Ann Arbor stock a sum practically amounting to par for both the common and the preferred, and against this purchase has issued notes bearing a high rate of interest. The only way that it can get even is to declare dividends equal to the full 5% on the preferred and at least 5% on the common, and, as we have seen, the Ann Arbor nominally earned such dividends in 1906. The alternative to this would be for the D. T. I. to borrow the amount of its deficit from the Ann Arbor.

The very interesting question then is whether the combined roads will be able to keep up the very handsome increase of business shown in 1906, and somewhat improve this. If this could be done, Ann Arbor stock would be an excellent thing to have and to hold; or it would be, save for the fact that minority shareholders have not in general been fortunate in the vicissitudes of changing systems.

The $25,000,000 of outstanding capital stock of the D. T. I. was issued as follows: $1,000,000 of the first preferred, and $800,000 of the second preferred to the underwriting syndicate

which furnished cash for the reorganization of the road, in addition to the bonds they received; $6,500,000 of the first preferred stock to the preferred stockholders of the Detroit Southern who paid an assessment of $10 per share in cash; $4,200,000 of the second preferred to common stockholders of the Detroit Southern paying an assessment of $5 per share in cash. The entire amount of the common stock went to the reorganization managers "for furnishing the cash and for other considerations." Apparently therefore, the subscribers of $2,675,000 of the consolidated mortgage bonds received a bonus of $1,000,000 of the first preferred, $800,000 of the second preferred, and $12,500,000 of the common stock, or a total of nearly $17,000,000 face value of securities for a presumptive outlay of $2,675,000.

The value of this stock, present or prospective, the individual investor will best be able to decide for himself. With fixed charges in the highly prosperous year of 1906 consuming about 87% of the total net income, it would seem that were a business reaction to come this consolidation would hardly fare better than the C. H. & D.-Pere Marquette merger, under the same auspices and with the same generous issue of securities.

Should the extension into the Kentucky coalfields be completed, this would undoubtedly add very heavily to the traffic of the road, but it is understood that this extension is to be built independently, and if it were afterwards added to the system on the same basis as the reorganization of the Detroit Southern or the purchase price of the Ann Arbor stock, it is obvious that the system would pay well for what it gained.

DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY.

The Duluth, South Shore & Atlantic is a subsidiary line of the Canadian Pacific, operating from Duluth to Sault Ste. Marie, through northern and peninsular Michigan, with branches into the Calumet mineral district. It is largely an ore road; its traffic is not heavy, and its capitalization enormous. To judge from the reports, it is kept alive largely by the bounty of the parent road.

The road represents the consolidation, in 1886, of several small lines, and in 1887, the Marquette, Houghton and Ontonagon and the Marquette and Western were leased and later purchased outright.

Ownership.

The majority of both common and preferred is owned by the Canadian Pacific Railway. In addition to this, the Canadian and Pacific held in its treasury the entire amount of the 4% consolidated mortgage bonds, $15,107,000, and of $3,000,000 Income Certificates; advanced $236,000 on car trusts, and had other guaranteed interest advances to the amount of $3,589,395, to say nothing of an open account of $323,000 additional.

The holdings of stocks and bonds and advances by the Canadian Pacific nominally represent, therefore, a total of $33,456,000. This is equivalent to $56,000 per mile of road, and is a great deal more than the road is worth. And the company has $15,500,000 of other stocks and securities outstanding.

The item of $3,589,395 of guaranteed interest advances does not, it is to be noted, appear as a separate item in the report of the Canadian Pacific Railway.

The directorate is controlled by representatives of the Canadian Pacific.

Capitalization.

The capital account on June 30th, 1906, showed as follows:

Common stock	$12,000,000
Preferred stock	10,000,000
Income Certificates	3,000,000
Total stock	$25,000,000
Funded debt	20,000,000
Car trusts	406,493
Can. Pac. Guar. Int. advances	3,589,395
Total debt	$23,995,888
Total capital	$48,995,888
Approx. capitalization per mile	$82,620
Average miles operated	593
Net earnings on total capitalization	2%
Stock on net capitalization	51%
Fixed Charges on Total Net Income	115%
Factor of Safety	—

A capitalization of $82,620 per mile of road with a traffic density of 382,800 tons, and gross earnings of only $5,159 per mile is not a very favorable showing. It compares with a gross capitalization of $42,800 per mile of the companion Sault Ste. Marie, with earnings of $5,728 per mile.

The net earnings show only 2% on the total capitalization, which is only about one-third the general average for the country. In other words, the capitalization is about three times too high.

Morever, this capitalization is not largely in the form of stock, which earns nothing and draws nothing; excluding the $3,000,000 of income bonds, very near one-half of it is indebtedness drawing interest.

Even excluding the income bonds, the indebtedness of the road alone amounts to over $40,000 per mile, and after taxes have been deducted from the total net income, the surplus earnings of the road did not amount in 1906, to more than 3% on the interest paying indebtedness.

It is not surprising, therefore, to find the road steadily "earning a deficit," year after year. It amounted to $150,302 in 1906.

This was in the face of no very heavy maintenance charges, which in 1906 amounted to only $702 per mile for the maintenance of way, and $379 per mile for equipment. Nearly half of the traffic of the road is ore traffic, and the maintenance of this is naturally low. In no other way could such maintenance charges be regarded as adequate.

The gross earnings for 1906 for the first time were over $3,000,000. They have fluctuated between that and $2,500,000 for a number of years.

Yet with but very slightly increased maintenance charges, amounting to a total of only $78,000 for the year, the road was still unable to earn its interest obligations. In consequence, there was a further debit to profit and loss, and this item on the balance sheet at the close of the year, amounted to $2,616,756.

It does not appear that there were any unusual charges, although "construction," charged to operating expenses, amounted to $341,309.

The balance sheet at the close of the year showed a debit balance of about $1,000,000, offset by a nearly equal amount of advances to other companies. The amount of cash in the treasury was $43,000.

It is scarcely worth while to discuss the investment value of the Duluth South Shore stock. Its gross earnings have not been rising steadily as other American roads' have been doing; the earnings per mile were rather smaller in the years of 1904 and 1905 than in the year of 1903. There is little therefore to indicate that a steady increment of earnings will soon bring the road into better shape.

Before anything can be paid upon the income certificates, the net earnings of the road will have to increase by $150,000 to $200,000, even if maintenance is kept down to its present apparently rather low figure; and in turn, the 4% on the $3,000,000 of income certificates would require an additional $120,000 before any surplus for stock could be shown.

The company is apparently in need of working capital, which it secures by further borrowings from the parent road, and its interest obligations are steadily increasing rather than decreasing.

If this is the showing for a year of such unparalleled prosperity as 1906 it is not very difficult to see what would become of the road in less prosperous times. The road would scarcely

sell on a better basis than a valuation showing 4% of net earnings over taxes. Supposing maintenance adequate, this, on the earnings of 1904-5 and 1905-6, would give a cash valuation for the property of rather under $18,000,000. Were the Canadian Pacific to pay the outstanding obligations, its $33,456,000 of stock, bonds and debt would, on this basis, show a cash valuation of not more than $13,000,000.

Apparently, therefore, the Canadian Pacific could gain little by foreclosure. On the other hand, it is too heavily committed to the fortunes of the road to let it go. One may infer, therefore, that it will continue to put up the deficit in the hope that eventually, possibly through extensions, the road can be put on a paying basis.

Meanwhile it is difficult to see what possible value the shares of the road can have. Since absolute control is held by the Canadian Pacific, the floating supply is worth nothing to any other road.

In order to earn even one per cent. on the preferred stock, the earnings over taxes,—the surplus before interest,—would have to be increased nearly 50%, even supposing present rates and present maintenance are unchanged, and saying nothing of the need of current funds.

Yet how this is to be achieved in the face of steadily declining freight rates, it is not easy to see. The rate for 1893 was 1.05c., for 1905, .93c., and for 1906, .85c.; and even these latter figures are high compared with the general average of American tariffs.

It is to be noted, morever, that the present showing of a deficit is not a steadily decreasing factor, growing less through a series of years. In 1902 the road was able to show a small surplus, with about the same average of maintenance charges. In the four succeeding years the deficit has ranged from $30.000 in 1903 to $283,000 in 1904, with little change in maintenance charges.

In five years the price of preferred stock has ranged from $10 to $45 per share. The price of the common stock in the same period has ranged between $4 and $22. The high price was for 1906, and based upon the situation shown in the above analysis.

It is difficult to believe that any serious minded investor purchased stock at the levels of 1906. The preferred at around $10 or $15 per share, the common stock at half these, might show

a speculative buyer a handsome profit, through the fluctuations in value; but those seeking solid investments will probably conclude that the market has many more attractive purchases.

ERIE RAILROAD.

More than any other American line, the Erie is a railroad with a history; and even in a country where scandals and mismanagement were not infrequent, the story of the Erie stands out in bold relief. Its annals go back to the halcyon days when Daniel Drew ran printing presses overtime to manufacture stock for Commodore Vanderbilt to buy; when Jay Gould restored to the road the modest sum of ten millions, because, so the chronicle runs, "he feared to shared the fate of his partner, 'Jim' Fisk, who was murdered;" when the offices of the company were carried about in the pockets of Fisk, Gould, et al., to escape suits and injunctions; and the road was in general simply an extensive gold brick which its possessors used in the promotion of their highly ingenious and often amusing swindles.

All this belongs to an ancient day and since its reorganization at the close of 1895, the Erie has been admirably conducted; large sums have been spent in improvements; its earnings have slowly but steadily increased; and while it is loaded with a rather heavy burden of overcapitalization, its securities have acquired in recent years a much greater degree of stability than they ever before possessed.

The Erie operates its own lines from New York to Chicago, the average mileage amounting to 2,151 miles, of which more than one-third has second or double track. It has valuable coal properties, which have helped towards the stability and the increase of its traffic; and its gross earnings in 1906 exceeded fifty millions of dollars. Its earnings per mile and its freight density exceed that of the New York Central, a very notable fact.

History.

The New York and Erie was chartered as far back as 1832 to construct a direct line from tidewater to Lake Erie, to avoid the circuitous route of the Hudson and central New York. Construction began in 1836 but its variegated financial troubles

began almost at the same time and the through line to Lake Erie was not opened until 1851. It was originally projected to run from Piedmont, about twenty miles above New York on the west bank of the Hudson, where a new metropolis was to be built outright. The remains of the long piers, stretching out into the Hudson, which were to be the foundations of this ambitious dream, are still to be seen. The road collapsed in 1859 and was reorganized as the Erie Railway with the famous Daniel Drew as president and treasurer. The Drew regime lasted until 1868 when Jay Gould and "Jim" Fisk obtained control, the operations of these gentlemen lasting through four spectacular years. There was another reorganization in 1876, and for a time the road was not only prosperous, but fairly well managed, and paid dividends.

The legacy of debt which was left to it, however, was too heavy and it went down with so many other roads in the general collapse of 1893 to be reorganized into the present company under the more or less recognized domination of the Morgan interests in 1895.

Since the reorganization the mileage of the road has increased but slightly and the main effort has been towards rebuilding and upbuilding the road.

Ownership.

The Erie stands somewhat apart from distinct ownership by other great systems, though it is a part of the community of interest organization. Up to 1904, when the voting trust was dissolved, the road was directly under the control of Morgan interests and nominally so remains.

On the directorate the Morgan interests are represented by Charles Steele, of the firm of J. P. Morgan and Company and Francis Lynde Stetson; and in more or less close association with these are William C. Lane, president of the Standard Trust Company; Louis L. Stanton, vice-president of the same; James J. Hill, president of the Great Northern and George F. Baker, president of the First National Bank. New York Central interests are represented by H. McK. Twombly; and D. O. Mills is also a director in the New York Central as well as Mr. Baker. Other directors include E. H. Harriman, president of the Union Pacific, also a director in the Delaware and Hudson; Alexander E. Orr, vice-president of the Delaware

and Hudson and president of the New York Life; Norman B. Ream of Chicago, also a director in the Lehigh Valley, the Baltimore and Ohio and other roads; John J. McCullough, of Vermont, also a director in the Atchison; James J. Goodwin and William Pierson Hamilton, identified with insurance interests in New York, and F. D. Underwood, president of the Erie, also a director in the Toledo and Ohio Central. Mr. Hill presented his resignation as a director in 1906, but his resignation was ignored at the succeeding annual meeting.

Of the Erie directors, four are also directors in the Lehigh Valley, three in the New York Central, two in the Lackawanna, two in the Delaware and Hudson, two in the Reading, and three in the Baltimore and Ohio, all more or less competing roads.

Directly the Erie has no close affiliations with other lines other than with the New York, Susquehanna and Western, which it owns; but it is one of the five roads which own an extensive block of Lehigh Valley stock and practically control the affairs of that corporation. The extent of the Erie's holdings are not specified.

In 1905 the Erie reported 4,309 shareholders.

Capitalization.

Low capitalization has not generally been characteristic of Morgan reorganizations and the Erie in its reorganized form, presents no exception. On June 30th, 1906, its capital account stood as follows:

Common stock	$112,378,900
1st Preferred	47,892,400
2nd Preferred	16,000,000
Total stock	$176,271,300
Funded debt	206,634,900
Equip. Trusts	15,064,205
Total capital	$397,970,405
Rentals capit. at 4%	31,687,500
Approx. gross capital	$429,657,905
Securities held	110,888,864
Approx. net capital	$318,769,041

Approx. net capitalization per mile.....	\$148,260
Average miles operated..............	2,151
Net earnings on net capitalization....	4.8%
Stock on net capitalization..........	52%
Fixed Charges on Total Net Income..	66%
Factor of Safety....................	34%

It will be seen that the larger part of the road's capitalization is represented by its own stocks and bonds, and that the capitalization of rentals paid adds but little to the total.

Deducting from the gross capitalization \$110,000,000 of nominal sucurities held, whose nature is not specified in the reports, the estimated net capitalization amounts to \$148,000 per mile, a sum considerably higher than that of the New York Central. On this estimate, the net earnings of 1906 showed only 4.8%, as against 5.8% for the New York Central, 8.1% for the Pennsylvania, 13.7% for the Lackawanna, and 14.7% for the Lehigh Valley. It will be seen therefore that in comparison with earnings the capital is high.

About half of the estimated capitalization, however, is represented by stock, on the large majority of which no dividends have ever been paid.

The Fixed Charges are high, consuming even in the record year of 1906, 66% of the total net income, leaving a margin of safety for the underlying securities of only about 33%. This margin is about the same as that of the New York Central, but it is very considerably below the average of solid roads. On the Lackawanna, for example, the Factor of Safety is 62%, and on the Pennsylvania 62%.

Equities Owned.

Of securities to the nominal value of \$110,000,000 owned by the Erie, the reports of the road give very little detail. The income from these securities in 1906 was only \$483,000, or not one-half per cent. on the nominal valuation.

The Erie owns practically all of the capital stock of the New York, Susquehanna and Western, amounting to \$13,000,000 preferred and \$13,000,000 common, of which about half is deposited under the Pennsylvania Collateral Trust Mortgage and the balance held free in the treasury. This stock was acquired in 1898 when Erie first preferred and Erie common was offered share for share for the Susquehanna stock. No

dividends have been paid upon this stock since 1892 and none are in sight, since with no excessive charges in 1906, the road earned a deficit. If this $25,000,000 and more of stock is carried on the balance sheet of the Erie, as it is apparently the case with the unpledged stock in the treasury, it is obvious that while this might be legitimately employed to rebate the nominal capitalization of the Erie, it represents no cash assets of any such value, and the Erie's equity in this holding is represented by a deficit.

The Erie's most valuable asset is its coal holdings. With the exception of the directors shares, the Erie holds the entire capital stock of the Pennsylvania Coal Company, the Hillside Coal and Iron Company, Blossburg Coal Company, and the Northwestern Mining Exchange Company. The larger part of these stocks were acquired in 1901 and their purchase was paid for by the issue of $32,000,000 Pennsylvania Collateral 4% gold bonds and $5,000,000 of the first preferred stock.

The operations of these companies are not detailed in the report, only their consolidated balance sheet and net earnings being shown. In 1906 these net earnings amounted to $1,595,140, but after paying interest on bonds outstanding and setting aside $320,541 to the sinking fund of the Pennsylvania Coal Company, the balance sheet showed a deficit of $45,000 to the Erie Company. When the five millions of preferred stock also issued in exchange for these companies is computed at 4%, it will be seen that the advantages of the purchase to the railroad did not show directly in its income account. The holdings of these companies in coal lands are enormous, the coal acreage of the Pennsylvania Coal Company being 12,600 acres, and the unmined coal estimated at 180,000,000 tons; the Hillside Coal and Iron Company, 7,200 acres, and 70,000,000 tons of unmined anthracite; or a total of 250,000,000 tons. In considering the assets of the Reading and other anthracite roads, their holdings of unmined coal have been reckoned at a minimum value of 10 cents per ton; and if this were taken as a basis of valuation, the Erie would have an asset in its coal holdings of something like $75,000,000. The holdings of bituminous coal are also large. These coal properties at the present time are earning about 4% on the $37,000,000 of securities issued for their purchase. Whether this represents the full net earnings of the properties or no is none too clear, but it seems reasonable to suppose

that with the steady accretion in the value of these coal fields the Erie should have a large if at present indeterminate asset.

Increase of Capitalization.

Since 1900, the Erie's funded debt has increased about $75,-000,000 and its preferred stock $5,000,000. Of this, $33,000,000 in bonds and the $5,000,000 of preferred stock represents the purchase of the coal stocks; and $22,000,000 of bonds was the new convertible issue designed primarily for the purchase of the Cincin? nati, Hamilton and Dayton stock, but after the abandonment of that enterprise, turned into improvements on the road. The increase of capitalization amounts to 25% and the gross earnings to about an equal amount, but as the coal issues about pay for themselves, the increase in rail earnings has been somewhat in excess of the increase in capitalization. The items stand as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1899-00	$112,357,410	$42,882,800 16,000,000	$146,070,900	$317,311,100	$38,293,032
1905-06	112,378,900	37,892,400 6,000,000	221,699,105	397,970,405	47,461,401

Character of Traffic.

Of the total tonnage nearly half, or about 47%, is made up from coal and coke, in about equal amounts of anthracite and bituminous. The 17,000,000 tons of coal and coke yielded a revenue of $12,000,000; the 19,000,000 tons of merchandize freight yielded a revenue of $23,000,000, so that the merchandise earnings are very considerably in excess of the coal revenue.

The average rate per ton per mile was .60c, a slight decrease from the previous year.

The coal earnings have grown very much more rapidly than the merchandize earnings. In the first year of the reorganized company the coal earnings were only $6,660,000 against $16,766,000 of general freight. This means that the character of the traffic is changing in exactly the opposite sense to that of the Reading, for example, and instead of becoming less

and less dependent upon a single industry the Erie is becoming more so. This is not a fact which makes for the stability of its earnings.

Stability of Earnings.

From the last year of the receivership to 1906, the earnings and mileage have stood as follows:

Year	Miles Operated	Gross Earnings	Earnings per Mile
1895–6............	2,098	$31,645,487	$15,083
1896–7............	2,125	31,495,031	14,821
1897–8............	2,124	33,740,860	15,885
1898–9............	2,109	33,752,703	15,529
1899–0............	2,109	38,293,032	18,156
1900–1............	2,156	39,102,302	18,138
1901–2............	2,154	38,409,225	17,833
1902–3............	2,153	43,509,139	20,208
1903–4............	2,150	43,005,213	20,000
1904–5............	2,151	43,321,647	20,140
1905–6............	2,151	47,461,401	22,065

It will be seen that with a very slight increase of mileage, the gross earnings and likewise the earnings per mile have increased more than 50%.

The Erie has been benefitted very considerably by the introduction of the Community of Interest idea, the average rate per ton having declined to .52c. in 1899. The difference of eight-tenths of a mill in the increased rate of 1906 represents in the earnings of that year about $4,800,000, or about one-third of the increase in earnings over 1896.

Maintenance.

Like other roads of its class, the Erie has been charging its maintenance in steadily increasing amounts, the total increase from 1901 amounting to $2,000, per mile, or more than 40%, on an increase of traffic density of only about 22%. The items for the six years have stood as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	2,314,277	$1,989	$2,809	$4,798
1901–2	2,203,036	1,848	2,602	4,450
1902–3	2,511,542	1,697	2,662	4,359
1903–4	2,413,562	1,841	3,055	4,896
1904–5	2,401,672	1,652	3,533	5,185
1905–6	2,764,827	2,139	4,037	6,776
Average	2,434,819	$1,861	$3,116	$4,977

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
Lackawanna...	3,163,799	$4,991	$3,608	$8,599
Lehigh Valley..	2,771,846	2,588	3,429	6,017
Reading.........	3,420,895	3,033	5,181	8,217
N. Y. Central..	2,070,251	2,722	3,033	5,755

Although the Erie's charges have been undoubtedly heavy, it will be seen that they have averaged considerably below that of four other representative roads of the same class. If we average the charges of the New York Central, the Lackawanna, the Lehigh Valley and the Reading, it will be found that these four roads spent through these six years $7,000 per mile per annum, which is an excess of $2,000 per mile or 40% over the average charges for the Erie, with an average difference of freight density of only 16%. This average charge of these four roads was in excess even of the heavily increased charges for the Erie in 1906. In other words, the Erie's charges were not up to the standard set by competitive roads of the same class. If, therefore, any attempt were made to scale the Erie's charges materially below the figures of recent years the road would inevitably fall behind other roads of its class. It would seem dubious policy therefore, for the investor to count upon any considerable amount of concealed surplus in these items. If several standard roads pursue a nearly similar policy, as it is evident that the standard roads mentioned have done, it is obvious that other roads in the same class must more or less meet this standard in order to keep up their end of the game.

Improvements From Earnings.

From 1901-2 the maintenance charges show a decrease of about $350 per mile. This was due to a change in bookkeeping methods, and the report of the president stated that in 1901 and the year previous considerable sums had been expended on improvements, the cost of which was charged to operating expenses. Since 1902 there has been a separate item for these improvement charges. Adding the sums for the two previous years, the amounts set aside from earnings for improvement purposes stand as follows:

1899-00	$1,177,040
1900-1	1,153,540
1901-2	1,257,857
1902-3	2,377,856

1903-4	1,540,320
1904-5	1,360,555
1905-6	1,926,973
Total	$10,794,141

These are nothing like the sums set aside by the Lackawanna, for example, but they at least show a disposition of the management to pay for improvements from earnings so far as earnings will justify, and taken in connection with the liberal maintenance shown especially in 1905 and 1906, they go to explain why it has been possible to keep down the cost of conducting transportation in the face of increased business.

Surplus Earnings.

The surplus shown over and above these maintenance charges and Fixed Charges since 1901, but before charging out Improvement Appropriations, stands as follows:

Year	Surplus	Dividends on 1st Preferred Stock	Per cent. Earned on Common	Average Price
1900–1	$2,823,157	1½	2.2%	23
1901–2	4,384,676	3	1.6	39
1902–3	8,433,266	3½	5.2	31
1903–4	4,552,053	4	1.7	28
1904–5	4,406,596	4	1.6	47
1905–6	5,016,643	4	2.2	44

(4% was paid on Second Preferred 1905-6).

Between 1903, when a larger surplus was shown than in any of the years under view, and 1906, there was a difference in maintenance charges amounting to $1,400 per mile, and this on the 2,150 miles of railroad, represents a difference of nearly three million dollars. This is nearly the difference in the surplus shown, and this difference of 30% in the maintenance charges per mile was on a difference in freight density of only about 10%.

In the same period the cost of transportation has increased but slightly, and relatively to the traffic density has decreased, showing that the heavy charges for maintenance are bearing fruit. If the Erie could be normally maintained on the basis of 1903, it would therefore be comfortably earning four or five per cent. on its common stock over and above the preferred dividends; but for the reasons already stated this is a misleading process of reasoning, and it is likely that the surplus shown in 1906 represents much nearer a safe and legitimate surplus than that of 1903.

Dividend Record.

The Erie in the old days was never a dividend earner save for stock market purposes. The reorganized company paid no dividends on its stock whatever for its first six years. It began paying a dividend on its first preferred in 1901, the full 4% being paid in 1904 and since. In 1905 and 1906 the 4% was paid on the second preferred.

The Balance Sheet.

At the close of the fiscal year of 1906 the balance sheet showed:

Current assets	$11,994,909
Current liabilities	7,372,970
Leaving a working balance of	$4,621,939

Of the current assets, $7,501,830 was in cash. In addition to the items shown under these heads, there was cash with the trustees for new equipment of $8,476,800; materials and supplies on hand, $3,882,049, and due from subsidiary companies, $3,644,418.

The amount to the credit of Profit and Loss was $11,979,461.

Balancing these items was about three and a half million dollars due for interest and dividends accrued.

Investment Value.

At the annual meeting of 1906, President Underwood said that the important grade reductions between Port Jervis and Jersey City, mentioned in the annual report, would be completed in a year. The report stated that the grades, with one exception, would be reduced to a maximum of 0.2 per cent. eastbound, and 0.6 per cent. westbound, as compared with 1.25 per cent. on the present line.

What this means to operation Mr. Underwood illustrated by saying that on the new grades 19 engines could do the work now done by 43 engines.

President Underwood said further that Cleveland was rapidly becoming the most important city between New York and Chicago in the Erie's territory and that therefore the Erie's plan to have a direct east and west line through the city meant much to the future position of the road. While on the map the

plan to form a loop to Cleveland by constructing a small amount of mileage west of the city and using trackage of the Big Four might seem to be roundabout, in reality it would give the Erie a line from Cleveland to Chicago six miles shorter than any other and from Cleveland to New York as short as any.

The contract under which the McAdoo tunnel companies will carry Erie passengers into Manhattan was still under negotiation. President Underwood said the Erie did not contemplate the construction of its own tunnel at any time, but the contract would provide that after a stated time the Erie might run its own electric trains through the tunnels. The question of terms was the principal one delaying the conclusion of the contract. The electrification of the lines within 25 miles of New York still engaged the attention of the company's commission of experts. As soon as they had made their report and the funds had been provided, the work would be undertaken.

Reference having been made to the effect of the coal strike upon the year's earnings, President Underwood remarked that he considered a cessation of mining as business merely deferred, not lost. He added:

"A more serious menace, and the chief one to which the Erie is exposed, is the growing export trade of the gulf ports, principally New Orleans and Galveston. The distance from Chicago to tidewater is about the same whether to gulf or Atlantic ports, but the former have the advantage of two practically water-level routes, while the eastern trunk lines have to haul across a mountain chain. Formerly we could rely upon the fact that nearly all the shipping came to this port, but now the shipping has a tendency to go to the gulf.

"The only thing to be done about it is to put our lines in the best possible condition to handle the business expeditiously and at low cost. Our competitors have made great improvements in their lines in recent years, and we must do the same."

Such being the immediate prospects we may consider the investment value of the stocks. Both the first and the second preferred stocks are limited to non-cumulative dividends of 4% and the company has the right to retire these preferred stocks at par in cash.

Erie first preferred sold as low as $30 per share in 1900 before the dividend era began. Upon the payment of the full 4% dividend in 1904, it sold as high as $77 per share, in 1905 at $85,

and in March, 1907, at $57. At an average price of about $66 per share the stock yields 6% with a fair margin of safety for the dividend. The $48,000,000 of first preferred requires a little less than $1,900,000 and the average surplus for six years shown after fairly heavy charges was nearly $5,000,000 per annum. These, it is true, were years of extraordinary prosperity; but in consequence of the heavy improvements which have been carried out, the property is in a condition that it never was in before, and its earnings are very considerably greater.

But becoming more and more dependent upon the coal industry for its earnings, Erie is not in the same position as other roads with more widely distributed traffic. It is easy to see that with prolonged labor difficulties in a single industry, its earnings could be very seriously impaired, though in case of decreased earnings it is in a position now to scale its maintenance charges without impairing the efficiency of the road. Limited to 4% and redeemable at par, the first preferred has no great speculative possibilities, and with 1906-7 rates for money the investor will probably conclude that even on a 6% selling basis, the stock was not over cheap. On this basis, however, it might show good returns, should money conditions improve and the heavy capital requirements of the road not prejudice the safety of its dividend.

The second preferred amounts to only $16,000,000; the 4% dividend requires, therefore, $640,000 additional; and on the same basis noted above, it is to be regarded as a rather speculative security. In 1904 when its dividend was begun, the stock could have been bought for $33 per share. It sold as high as $78 per share in 1905 and showed an average price of about $70 per share in 1906; in March, 1907, it sold at $35. From these figures it is evident that its security is not highly regarded. Nevertheless, bought at anything like 1907 prices, and held, it might yield a handsome speculative profit in time. It is not to be regarded otherwise than as a speculation.

It is obvious that no dividend could be paid on the enormous amount of common stock outstanding unless the dividend on both the preferred stocks were thoroughly assured.

Erie common represents one of the "low price" favorites of the Stock Exchange, and because of the huge quantity of stock outstanding ($112,000,000), the expectation of a dividend has not been very great. In 1902, on account of the heavy increase of the earnings shown, the stock was run up to $44 per

share. It declined to $21 per share in 1904, rising to $52 in 1905. It did not again reach the latter figure even under the exceptional showing of 1906 and sold again at $20 in June, 1907. It is evident that bought at the low figures the stock represented in this period an enormous opportunity for profit, but it is to be recalled that the slump of 1903-4 was a stock market slump and that the general business of the country was very little affected. The stock market recovery, therefore, was extremely rapid. Precisely a repetition of this is not likely to occur soon. Of course, if the steady increase of earnings through six years could continue, even in somewhat abated degree, the stock might receive a small dividend within a few years, but there are probably many other non-dividend stocks on the list which will receive dividends before Erie common.

Erie Convertibles.

The Erie has outstanding two series of 4% convertible bonds, $10,000,000 of Series "A," convertible into common stock at 50 and $12,000,000 of Series "B," convertible into the same stock at 60. In 1906 Series 'A" was quoted as high as 109 and was not quoted below par throughout the entire year. In March of 1907 these bonds sold down to 76, declining in sympathy with the fall of the common stock from above 50 to below 22. A quotation of 50 on Erie common could be due only to speculative excitement and clever manipulation. Obviously the price of the convertibles would follow this, so long as there seemed a remote chance of profit. As soon as this prospect faded, the bonds sold on their merits as a 4% obligation, subject to many prior liens. It seems improbable that Erie common will sell much above $50 per share for many years to come and the conversion feature of these bonds, therefore, is of value only in so far as the stock might be again run up to these high quotations. Convertible into Erie common on a basis of $50 per share, obviously the bonds would show a profit whenever the price of the common exceeded one-half the amount paid for the bonds. Probably only a return to such conditions as those of 1902 or 1906 would make this feature of any value.

EVANSVILLE AND TERRE HAUTE RAILROAD.

(Including Evansville & Indianapolis Railroad).

The Evansville & Terre Haute is now one of the smaller subsidiaries of the Rock Island system—that is to say, a large majority of its stock is owned by the Chicago & Eastern Illinois, which is in turn owned by the St. Louis & San Francisco, which in turn, is controlled by the Rock Island Company. In 1906 the reports of the Evansville & Terre Haute included the operations of the Evansville & Indianapolis Railroad, all of whose stock ($2,000,000) is owned by the former. Prior to 1905-6 the Evansville & Indianapolis was operated separately.

The operations for 1906 covered 310 miles of track, extending from Terre Haute, where the road joins the Chicago & Eastern Illinois, to Evansville and Mt. Vernon on the Ohio River, with a parallel line from Evansville northward to Brazil, Indiana.

As of June 30th, 1906, the Chicago & Eastern Illinois owned $3,161,433 of the $3,987,383 of the outstanding common stock, leaving $825,950 in the hands of the public There was also outstanding $1,283,333 of the preferred.

The consolidated earnings for 1906 amounted to $2,163,680, or $6,979 per mile. The total net income for the year amounted to $1,076,875. Of this, 67% was consumed by fixed charges, leaving a balance of $685,486. This was equivalent to the full 5% on the preferred and 8.2% on the outstanding common stock.

The maintenance charges, like those of the other roads belonging to the 'Frisco system, were not overly high. On a freight traffic density of 480,122 ton miles, the maintenance of way amounted to $730 per mile and maintenance of equipment to $995, or a total of $1,725. It was on the basis of these low maintenance charges that operating expenses amounted to only 51% of the gross receipts from operation. The company states that $42,920 in additions and improvements was charged to operating expenses during the year.

The full 5% has been paid on the preferred since 1899. From 1902 to 1905, inclusive, no dividends were paid on the common, but 4% was declared in 1906, or one-half of the surplus nominally remaining after fixed charges and preferred dividends.

The preferred stock may be regarded as a fairly solid 5% stock, liable, however, to sell somewhat below its actual value on account of the prevalent prejudice which exists against Rock Island securities.

The dividend on the preferred does not appear to be overly stable and in less prosperous times than in the year of 1906 might readily be reduced or passed.

The margin of safety on the underlying securities is not very high, but would probably be regarded as sufficient did the road not belong to a system which, apparently, in the minds of the public has not yet passed the probationary stage or completely demonstrated its ability to withstand a considerable recession in business.

GEORGIA SOUTHERN AND FLORIDA RAILWAY.

The Georgia Southern is one of the subsidiary roads of the Southern Railway system. It has the same chief officers as the latter but is separately operated. The present line includes the Atlantic, Valdosta & Western, and in 1906 the operations covered 395 miles of track.

The gross earnings were $1,994,946 or $4,924 per mile. Operating expenses in 1906 consumed 74% of the gross earnings, leaving a total net income of $515,842. Fixed charges consumed 70% of this amount, leaving a surplus of only $160,159. After the payment of the full 5% dividends on the first and second preferred stock this left a balance equivalent to about 4% on the $2,000,000 of outstanding common stock.

The traffic density of the road is low, amounting to 219,921 ton miles per mile of road in 1906. Charges for maintenance of way were $669 and for maintenance of equipment $993, which may be regarded as ample.

The full 5% on the first preferred has been paid since 1897 and the full 5% on the second preferred was paid in 1906. Previous to that, from 1900, 4% was paid. It is evident from the high percentage of fixed charges on total net income that the margin of safety for the preferred stocks is not overly large and that they belong still in the class of somewhat speculative investments.

No dividend is being paid on the common and the amount earned in 1906 and previous years does not suggest immediate prospect for any such payments.

GRAND RAPIDS AND INDIANA RAILWAY.

The Grand Rapids and Indiana is one of the subsidiary lines of the Pennsylvania system, operating a north and south road from Richmond, Ind., up through western Michigan towards Mackinac. The operations of the company comprise also the Cincinnati, Richmond and Fort Wayne, the Muskegon, Grand Rapids and Indiana, and the Travers City railroads. The total mileage operated in 1906 was 579 miles.

Of the $5,791,700 of capital stock, the Pennsylvania Company owns $2,902,600, or more than a majority of the stock, and the directors and officers of the road are principally officials of the Pennsylvania Company.

On January 1st, 1907, the capital account of the road stood as follows:

Common stock	$5,791,700
Funded debt	9,775,000
Total capital	$15,566,700
Rentals capit. at 4%	4,250,000
Approx. gross capit	$19,816,700
Approx. capital. per mile	$34,229
Average miles operated	579
Net earnings on total capitalization	6.0%
Stock on total capitalization	29%
Fixed Charges on total net income	76%
Factor of Safety	24%

The 6% which the net earnings show on the estimated capitalization are the net earnings in the report. This, however, is after rather heavy maintenance, amounting in 1906 to over $2,600 per mile. These charges on a road with a traffic density of only 731,000 ton-miles per mile of road, are certainly high, and un-

doubtedly represent the Pennsylvania policy of large improvements from earnings. Similarly the percentage of Fixed Charges on the Total Net Income would show a much lower figure if maintenances expenses had not been so heavily charged. These charges for a series of years have compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900	399,603	$1,088	827	$1,915
1901	447,682	1,160	820	1,980
1902	494,786	1,136	965	2,101
1903	490,883	1,114	1,092	2,206
1904	524,244	1,108	982	2,090
1905	649,016	1,054	1,216	2,270
1906	731,341	1,229	1,387	2,616
Average	533,936	$1,127	$1,041	$2,168

Earnings over a series of years have been as follows:

Year Ending December 31st	Miles	Gross Earnings	Net Earnings
1897	586.40	$2,542,086.88	$655,779.59
1898	589.82	2,784,844.94	733,990.43
1899	583.98	3,146,165.27	791,350.30
1900	581.63	3,376,182.36	759,372.25
1901	589.95	3,654,725.31	895,388.83
1902	589.95	4,014,775.56	957,356.18
1903	589.95	4,238,885.83	817,293.49
1904	573.39	4,149,727.35	746,226.19
1905	581.79	4,484,193.05	871,313.73
1906	579.02	4,795,103.04	950,970.83

The gross earnings in 1906 amounted to $8,281 per mile. The net income shown after the payment of rentals and charges amounted to $179,976 in 1904, $258,587 in 1905, and $286,162 in 1906. The surplus shown amounted to only 4.3% of the gross income in 1904, 5.7% in 1905, and 6% in 1906. The charges for conducting transportation and general expenses were high, and these, with the high maintenance charges, are responsible for the low percentage of surplus shown.

Since 1900 the stock has paid a 3% dividend, leaving but a small annual surplus.

The balance sheet at the close of 1906 showed an excess of about $260,103 of current assets over liabilities. The item of cash was $687,244, and the balance to credit of Profit and Loss was $448,530.

The road is apparently in good financial position, its maintenances charges are heavy, and its business has been increasing steadily since the reorganization of the company in 1896. The gross earnings have increased about 75%, while the net earnings have only increased about 33%. This is largely due to the Pennsylvania policy of ample maintenance and improvements.

On a 3% basis, with sound conditions, steadily increasing earnings, excellent prospects, and the backing of a powerful system like the Pennsylvania, the stock should readily sell for $60 to $80 per share. If bought at some such figure as this, an investment would probably show a steady increment in value from year to year, though in the report of 1906 the company complains of the burdens which the State of Michigan imposes in heavy taxation and rate laws.

GRAND TRUNK RAILWAY OF CANADA.

The Grand Trunk operates a network of roads in eastern Canada, extending from Portland, Maine, and Quebec, along the St. Lawrence River to Port Huron, and thence to Chicago. Through its practical ownership of the Central Vermont, it reaches southward from Montreal to New Haven, Conn. Directly in 1906 the Grand Trunk operated 3,535 miles of road, with 663 miles of additional main track. It also owned all the stock of the Grand Trunk Western, 336 miles, of the Detroit, Grand Haven & Milwaukee, 189 miles, and of the Toledo, Saginaw & Muskegon, 116 miles, and of the Central Vermont, 531 miles, and a majority of the stock of the Canada Atlantic, 468 miles, bringing the total mileage operated and controlled, up to 5,175 miles. It is also financing the construction of the Grand Trunk Pacific (which see).

The Grand Trunk is owned in England, and all its directors reside in that country. The present Grand Trunk represents the consolidation in 1882 of a company of the same name, with the Great Western Company. In 1888, the Northern Railway of Canada was absorbed and control of the Canada Atlantic was secured in 1904. The road divides the pre-eminence of Canadian railways with the Canadian Pacific, in rather sharp rivalry, and it has no especial affiliations with any large American system.

The company's reports are made up semi-annually, and unlike the Canadian Pacific, figures as to capital, earnings, etc., are given not in Canadian, but in English money; that is, in pounds, shillings and pence. This is doubtless for the convenience of the English investor. The Grand Trunk is capitalized and conducted along English lines, that is to say, its capitalization per mile is about three times that of other American roads with similar earnings, and as its securities and shares command a price in the English market much beyond that which they could secure in the American market, it has not been deemed worth while to translate the figures into American or Canadian money. This translation has laboriously been made by Mr. Mundy in his "Earning Power of Railroads," where it is to be found.

Capitalization.

As of June 30th, 1906, the capital account (in pounds, not dollars), stood as follows:

Consolidated stock	£22,475,985
4% guaranteed	8,129,315
1st preferred stock	3,420,000
2nd preferred stock	2,530,000
3rd preferred stock	7,168,055
Total stock	£43,723,355
Funded debt—	
Debenture stock, 4%	22,477,426
Loan capital	1,911,000
Can. Gov. advances	3,111,500
Total capital	£71,223,281
Total cap. per mile	£20,148
Average miles operated	3,535
Net earnings on total capital	2.5%
Stock on total capitalization	60%
Fixed Charges on Total Net Income	65%
Factor of Safety	35%

In 1906 the Grand Trunk paid in rentals about £150,000 and advanced a little less than £50,000 to make up the deficit for the operations on the Canada Atlantic, which, like the rentals, represented employment of capital. On the other hand, from securities owned, the Grand Trunk received a little over £200,000; that is, income from other sources about balanced rentals and deficit advances. In the makeup of the table above, therefore, these items have been neglected, as they would not affect the result and the total capital of the company thus becomes the equivalent of the net capitalization on other American roads.

It will be seen that the capitalization is very high, amounting to £20,148, or nearly $100,000 per mile. The Grand Trunk does not traverse a mountainous section; a large part of its line

is water grade; it was not built recently, and its gross earnings in 1906 were only about $8,700 per mile. This is about the average earnings of such roads in the middle West as the North Western, the St. Paul and the Burlington, which have been built through a country about as thickly settled as Canada and whose total capitalization per mile averages around $30,000. The Grand Trunk's capitalization of $100,000 per mile compares likewise with a gross capitalization for the Canadian Pacific of $35,000 per mile, with gross earnings of $7,100 per mile.

This high capitalization is further reflected in the fact that the net earnings of 1906 represent only 2,5% on the capital, as against 9.4% for the Canadian Pacific, 8.1% for the Pennsylvania, 8.8% for the Michigan Central, 13% for the Lake Shore, &c. In other words, about two-thirds of the capitalization is what is vulgarly described in America as "water." Actually, the gross capitalization of the Grand Trunk (about $350,000,000), operating about 3,500 miles of road, considerably exceeds the gross capitalization of the Canadian Pacific, operating over 9,000 miles of road.

A considerable part of this over-capitalization, however, is represented by stock, upon which no dividends have been paid and from the present outlook never will be paid, at any near date. The total stock, including the guaranteed 4% stock issued to Great Western shareholders at the time of the consolidation, represents 60% of the gross capitalization. Nevertheless, even with this favorable arrangement, fixed charges, including rentals, are high, consuming in 1906, 65% of the total net income, leaving only 35% margin of safety for the underlying securities. The actual mortgage debt of the road, however, is very small, the larger part of the funded debt being represented, after the English fashion, by debenture stock, not foreclosable, but on which the dividend is cumulative.

Stability of Earnings.

The Grand Trunk traverses a country whose population is more or less fixed—its earnings are stable and present no great variation from year to year. The following table made up by the Financial Chronicle from the cumbersome and difficult semi-

annual reports of the road show receipts and disbursements for three calendar years:

Years Ending Dec. 31st	1905	1904	1903
Gross Earnings	$6,018,001	$5,689,130	$5,916,548
Transportation Expenses	4,269,153	4,100,660	4,209,115
Net Earnings	$1,748,848	$1,588,470	$1,707,433
Total Net Income	1,951,232	1,787,232	1,891,170
Rentals	155,206	155,206	155,206
Int. on Bonds & Deb. Stock	1,071,144	1,070,505	1,068,690
Advances to Controlled Roads	11,070	4,807	13,901
Dividend on Guar. Stock	(4) 275,358	(4) 255,532	(4) 214,160
Do. on 1st Pfd. Stock	(5) 170,842	(5) 170,842	(5) 170,842
Do. on 2nd Pfd. Stock	(5) 126,420	(5) 126,420	(5) 126,420
Do. on 3rd Pfd. Stock	(2) 143,293	....	(2) 143,293
Balance	def. $2,101	sur. $3,920	def. $342

Maintenance Charges.

The following comparison, taken from Mr. Mundy's "Earning Power of Railroads," gives the traffic density and maintenance charges for the fiscal years of 1905 and 1906:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1904–5	731,091	$1,171	$1,081	$2,252
1905–6	802,260	1,257	1,435	2,692

According to Mr. Mundy's computation, maintenance expenses consumed 25% of the gross income in 1904, nearly 27% in 1905, and nearly 30% in 1906. From this it will be seen that, revenues remaining about the same, the maintenance expenditures for 1906 were unusually heavy. Yet on a road of the character and traffic density of the Grand Trunk, they were scarcely excessive, and probably represented around the normal amount necessary for the adequate upkeep of the road.

Investment Value.

Save as to its large capitalization, the financial features of the Grand Trunk do not differ greatly from that of the typical American railroad. Its average operating charges for three years were around 70%, or a very little higher than the average operating charge of American roads. Traffic density compared, its maintenance charges are at about an average figure. The average rate per ton mile received by the Grand Trunk is around .67c., very closely the average rate for the United States.

From the table of earnings given above, it will be seen that through the three years under view the surplus over fixed charges was amply sufficient to pay the full 4% dividend on the £8,129,-315 of guaranteed stock, and the full 5% on £3,420,000 of first preferred. The margin on the second preferred was much narrower, exhausting practically all the surplus for the calendar year of 1904. Through the payment of 2% dividends in 1903 and in 1905 on the £7,168,055 of third preference stock, it will be seen that there was an actual deficit.

The full dividend on the guaranteed stock and the first preference stock has been paid since 1898, while small dividends were paid on the second preference stock from 1898 and the full rates since 1901. The third preference stock received one per cent. in 1902, 2% in 1903, 2% each in 1905 and 1906.

From all this, it will be seen that the Grand Trunk pursues the English policy of paying out its entire surplus in dividends each year, while the practice of almost all standard American railroads is to turn back somewhere near one-half of the surplus into permanent improvements. An American road which pursued the English policy would not be regarded as sound and its stock would tend to sell very much below that of other roads paying the same dividend rate.

Let us bear in mind that the Grand Trunk's maintenance charges are in no wise excessive and compare the prices which its stocks command in the English market. The lowest price at which its 4% guaranteed stock has sold in four years was 95½ in 1904 and generally it has sold above par. The lowest price on the 5% first preference was 97 in 1904 and it sold as high as 122 in 1906. The 5% second preference sold as high as 115 in 1906 and the third preference stock, with an off and on dividend of 1% or 2%, sold as high as 70.

With the exception of the last, these are all fixed dividends, without prospect of increase. It is safe to say that in the American market these same securities would have sold at least 20% below these figures, on the average, for it would be quite absurd to compare a 5% stock, for example, like New York Central, carrying control of a rich and enormous system of roads, with large equities in subsidiary lines and no fixture in its dividend rate, with these preference shares whose rate is fixed and which have no equities whatever.

It would be curious to determine precisely the cause of this wide discrepancy. It is due, doubtless, first of all to the fact, that the Grand Trunk is owned in England and that the English investor is accustomed to much smaller returns than Americans; second, that the road is in the British possessions and not in the United States, and third, no doubt, to a belief in a higher standard of honesty in English and colonial managements. But it is quite certain that there are dozens of American roads managed quite as honestly as any English line, whose policy as to dividend disbursements is very much more conservative, which are devoting enormous sums to improvements from their earnings, and are therefore steadily increasing in value; whose credit is steadily increasing while that of the typical English railway is sinking to the vanishing point, and which offer an average of at least 25% higher returns to the investor at the selling price of their securities.

There are very few American lines capitalized on any such extravagant basis as that of the Grand Trunk, and the securities of these few are not regarded with any degree of favor.

GRAND TRUNK PACIFIC RAILWAY.

This quite extraordinary enterprise proposes the construction of a complete new transcontinental line from a point near Halifax on the Atlantic to a port on the North Pacific. The main line will extend from Moncton, New Brunswick, to Quebec and from there striking westward in an almost air line to Winnipeg. It will lie far to the north of Montreal, Ottawa or Lake Superior, and will traverse an almost wholly undeveloped and uninhabited country. From Winnipeg the line bears northwesterly to Edmonton and from there by a route not yet determined, will reach the Pacific coast at a point called Prince Rupert, where an excellent harbor has been secured, several hundred miles to the north of Vancouver. Various branches are projected, one of them from the wheatfields of the northwest to Fort Churchill on Hudson Bay and another to Dawson in the Klondike.

The eastern division from Moncton to Winnipeg is estimated at 1,800 miles, and from Winnipeg to the coast at about 1,700 miles, or about 3,500 miles from the Atlantic to the Pacific.

The incorporated company has an authorized capital of $45,000,000, shares of par value of $100 each, of which all the $25,000,000 of common stock will be owned by the Grand Trunk Railway. In June, 1906, $25,000,00 sterling debenture stock was authorized, of which $15,000,000 is to be used for equipment and other purposes.

The construction bonds of the road are jointly guaranteed by the Canadian government and the Grand Trunk Railway, the Canadian government guaranteeing 3% first mortgage bonds up to 75% of the cost of construction of the western division, this cost not to exceed $13,000 per mile for the Prairie section. This guarantee is made conditional on the Grand Trunk Railway of Canada guaranteeing second mortgage bonds to provide the balance of the construction of the western division of the line from Winnipeg on.

In 1906 nearly 1,400 miles of the road was under construction.

The advantages claimed for this line are that it will shorten by 1,500 miles the distance from New York to Yokahoma under the San Francisco route, and 500 miles under the Canadian Pacific or Hill route, with a corresponding shortening of the distance from London or English ports. It is being constructed on a 4-10 of 1% grade and with an average lower gradient and curvature than any other transcontinental road.

This construction forms a part of the tremendous railroad boom which has been inaugurated in Canada and which will add more than 25% to the total mileage of the dominion. It is estimated that in 1906-7 upwards of 5,000 miles of track were under construction in Canada, mainly in the territory lying westward from Winnipeg to the base of the Rockies. This rich wheat-growing country has enjoyed an extraordinary prosperity, coupled with a huge influx of immigrants. It has duplicated the famous Dakota boom of the '80s.

It is to be noted that the entire population of Canada is less than 6,000,000 people, less than that of either the states of New York or Pennsylvania. And yet its total mileage in 1905 was over 20,000 miles, considerably in excess of the combined mileage of these two rich states. With the properties now under construction Canada will have about twice the mileage in proportion to its population, as that of the United States.

So far as the Grand Trunk Pacific is concerned, it parallels, or will parallel, especially in western Canada, the Canadian Pacific, the Canadian Northern and the new Hill line, from Winnepeg west.

It would be quite extraordinary if the phenomenal prosperity of western Canada should not undergo a severe set-back such as always follows a boom, and if this were to take place the operations of the Grand Trunk Pacific might readily impose for a time a considerable burden on the parent road. With its present heavy capitalization and high proportion of fixed charges to total net income, the Grand Trunk is not in a position to meet such a burden without considerable impairment of its dividends.

GREAT NORTHERN RAILWAY.

The Great Northern is from many points of view the most remarkable of the larger railways of the United States, if not of the world. It is in a stricter sense than is true of any other railway the personal creation of one man. It was begun in the West when the West was new, and it has led rather than followed the westward tide of immigration. It was built through to the Pacific without a dollar of subsidy, and it reached the coast in the panic year of 1893. It continued to earn and pay its 5% dividends straight through the long depression of 1893-7, even though its gross earnings per mile in a single year were cut down one-fourth and its net earnings one-third; and all this while most other Pacific roads—the Northern Pacific, the Oregon Navigation, the Union Pacific, the Atchison—went into bankruptcy. To make the story still more wonderful, all the other Pacific roads, its direct rival, the Northern Pacific in particular, received in subsidies or land grants far more than enough to have repaid the builders every dollar of actual capital they expended. The management, the operation, the traffic gathering of the Great Northern have for years been the model and the envy of the other railroads of the country.

The Great Northern in 1906 was operating 6,000 miles of railway between St. Paul, Lake Superior and Seattle, with very considerable extensions in progress, with lines of steamships on the Great Lakes, and across the Pacific. It had vast ore properties in northern Minnesota about Lake Superior which it has since leased to the United States Steel Corporation, insuring the Great Northern, in freight rates, an average gross income as a minimum of over $8,000,000 per year for at least eleven years, and probably much beyond that. It had in addition control of and a half interest in the surplus earnings of the Chicago, Burlington and Quincy, over and above the interest on the bonds issued in payment for the road, estimated at from two to four million dollars for 1906, to say nothing of the market worth of this huge

equity. Finally, its management was practically identical with that of the Northern Pacific, its chief rival, affording to the Great Northern a practical monopoly of transportation facilities over a vast territory.

As evidence of the financial strength of the company, its $150,000,000 of stock was selling throughout the fiscal year of 1906 at above $300 per share or at a premium of over $300,000,000 on its face value. And in the fall of 1906 the road issued to its shareholders, trust certificates covering the income from the ore lands lease, to a face value of the entire capital stock of the company, and selling in the open market for around $85 per $100 share.

History.

The Great Northern was chartered in 1889, directly as the successor of the Minneapolis and St. Cloud Railway, but practically for the purpose of taking over the St. Paul, Minneapolis and Manitoba system, which was leased to the Great Northern for 999 years in 1890. The "Manitoba" was in turn an outgrowth of the St. Paul and Pacific, which had been incorporated as the Minnesota and Pacific Railroad in 1857 to build a railway from St. Paul in the direction of the Pacific coast. In 1860 the road failed to pay its interest on advances from the state of Minnesota and it was for a time operated as a state road, being then turned over to the St. Paul and Pacific, which collapsed in 1873. Soon after, Mr. Hill and his associates obtained the control of the road, after a long fight in the courts, and in 1879, organized the St. Paul, Minneapolis and Manitoba. Soon after came the famous boom of the early eighties and the earnings of the company were so enormous that by 1883 the shareholders were offered $10,000,000 of consolidated bonds at the rate of 10% of their par value to the amount of one-half of the holdings, which was practically equivalent to a 40% dividend; and this was over and above an 8% regular dividend in the same year. With the formation of the Great Northern Railway, the line to the Pacific was pushed rapidly and completed in 1893. But so conservatively had the road been capitalized, especially as regards the issue of bonds, that despite the drastic depression which ensued, the road was not only able to keep out of the hands of receivers but to continue its regular 5% dividends.

Various lines, like the Eastern Railroad of Minnesota, the Seattle and Montana, etc., for the most part constructed for the

Great Northern by subsidiary companies, were added to the main system. The Spokane Falls and Northern system is still operated independently, like the Minneapolis Union Railroad, but they are entirely owned by the Great Northern.

In 1901 control of the Burlington was purchased, which practically added in 1906, nearly nine thousand miles to the system. At about the same time as the Burlington purchase, Hill interests entered the directorate of the Northern Pacific and undertook the management of that road. The proposed merger of the three roads through the formation of the Northern Securities Company as a holding organization of the controlling shares of their stocks, was undertaken in 1902, but soon afterwards dissolved by the courts, after a memorable fight, on the ground that the purpose of the company was in effect the merger of competing lines of railroad. Mr. Hill retired from the Northern Pacific directorate when his son was made vice-president of the company, but it is Mr. Hill who dominates the policy of the road.

Ownership.

The Great Northern comes very near to being Mr. Hill's private possession, if not in point of actual ownership, at least as regards its actual management. The directorate includes Mr. Hill himself, his son, L. W. Hill, president; R. I. Farrington, second vice-president; Edward Sawyer, treasurer; and Frank E. Ward, general manager; these five form a majority of the board. The other directors are: Frederick Weyerhaeuser, at the head of the Weyerhaeuser lumber interests and long identified with the road, also a director in the Chicago Great Western; Henry W. Cannon, formerly president, now chairman of the board of the Chase National Bank, president of the Pacific Coast Company, controlling a large line of Pacific coast steamships; Samuel N. Thorne, a director of the Central Trust Company of New York, and in other enterprises; and William B. Dean, of St. Paul. The number of stockholders of the road is not reported, but it is not large. The Hill lines work in close association with the Morgan interests, which are prominent in the directorate of the Northern Pacific, and Mr. Hill has been a director in the Erie road, also largely dominated by Morgan interests. His resignation in 1906 was not accepted. Through the lease of its ore lands the Great Northern has recently come into close associ-

ation with the United States Steel Corporation, in which Morgan interests are likewise influential.

By a curious coincidence Mr. Hill was born in Canada and became head of one of the greatest railroad systems in the United States, just as both Sir William Van Horne and Sir Thomas Shaughnessy were born in Illinois and became heads of the greatest railroad system in Canada. Mr. Hill had accumulated a considerable fortune in the boating and transportation interests about St. Paul before entering railroading, in this regard following the career of Commodore Vanderbilt. He was first local agent of the St. Paul and Pacific Railway at St. Paul, and in 1879 was made general manager, and in 1881 vice-president of the newly organized St. Paul, Minneapolis and Manitoba. In 1883 he was made president of that road and has since continued. He developed a marvellous aptitude for railroad management, and was the pioneer in the policy of full cars and heavy trainloads, which has subsequently worked so enormous a reduction in the transportation costs of the country. It is worthy of note that when it was proposed to push the railroad through to the Pacific without subsidies or land grants, through a wholly unsettled country and along the extreme northern line of the United States the enterprise was popularly known as "Hill's Folly." So did his genius for transportation triumph however, that when the Northern Pacific and other roads went into bankruptcy, Mr. Hill was able to keep his road on its feet, sheerly through its larger earnings per train mile, and its low fixed charges. His genius is shown equally in matters of railroad finance. It was his foresight and sagacity which bought up the rich iron deposits of northeastern Minnesota, today of actual or potential value sufficient to retire the entire outstanding capitalization of the Great Northern system and leave a huge surplus besides. Similarly, his remarkable judgment was shown in the purchase of the Burlington road when $200 a share was paid for its stock. He is almost as well known in Europe as in America and it is notable that the financing of the Hill roads has never been with the aid of underwriting syndicates.

Capitalization.

It is quite impossible from the Great Northern's reports to make up an estimate of its capitalization on the same basis as with other roads. The reports are not designed to give a great

deal of information, and were it not for the magnificent record which the management has made, they would produce a very unfavorable impression.

On June 30th, 1906, the nominal capitalization of the system was as follows:

Capital stock	$149,546,050
Funded debt	100,227,939
St. Paul, Minn. & Man	347,000
Total capital	$250,120,989
Approx. gross capit. per mile	$42,362
Average miles operated	5,906
Net earnings on gross capitalization	10.1%
Stock on total capitalization	60%
Fixed Charges on Total Net Income	26%
Factor of Safety	74%

The showing given above is the gross capitalization; the actual capitalization was considerably less. For example, some years ago the Great Northern transferred to the Lake Superior Company Ltd., all its ore lands, its interest in the Great Northern Express Company and some miscellaneous holdings. It was the ore lands held by this latter company which formed the basis of the issue to Great Northern stockholders in 1906 of ore certificates to a par value of $150,000,000. Of all this, or of the earnings of the company, or even that such a company exists, the Great Northern's report of 1906 did not give the remotest hint.

Taking the ore certificates alone, these sold at from $85 to $50 per $100 share in 1906-7. Averaging these at $75 per share, this represented the cash equivalent of three-quarters of all the Great Northern's stock and nearly one-half of the gross capitalization of the road.

Since this distribution, however, which was virtually equivalent to a stock dividend of 75% and more, the Great Northern's capitalization must stand on its own legs; that is, the purchaser of Great Northern stock now has no interest in the ore properties beyond the coal traffic which they will furnish to the railroad proper.

Probably the remaining holdings of the Lake Superior Company Ltd., and the other outside holdings of the Great Northern would not very greatly reduce its capital, so that the estimate of $250,000,000 is somewhere near the actual capitalization of the railway, that is, what has been spoken of in considering other companies as the net capitalization.

Even on this basis, it is evident from the showing of the net earnings that the Great Northern's capitalization is low. It is true that the net earnings shown are on a basis of rather low maintenance charges, so that in strict comparison with other roads, the 10.1% shown in 1906 would be slightly reduced. As it is, it stands against 8% for the Union Pacific, 9.6% for the Northern Pacific, 9.4% for the Canadian Pacific, 5.9% for the Atchison, 6.6% for the Southern Pacific.

Again, the estimate of a capitalization of $42,362 per mile for the Great Northern stands against similar estimates of $59,512 for the Northern Pacific, $58,887 for the Atchison, $28,613 for the Canadian Pacific, $64,426 for the Southern Pacific, and an actual net capitalization of the Union Pacific of about $50,000 (nominal $73,992).

It will be seen that the amount of bonds of the Great Northern is relatively low, amounting to an average of only about $17,000 per mile, the stock representing 60% of the gross capitalization and fixed charges consuming only 26% of the total net income. Only a few of the strongest roads in the country, like the Lackawanna, are able to make any such showing as this. It is evident enough that earning as it does, around 13% a year on its 150 millions of stock, the security of the underlying bonds of the Great Northern would never be questioned. The nominal Factor of Safety is 74%; actually it is nearer 100%.

Equities Owned.

As to the value of the Lake Superior Company, Ltd., all of which is owned by the Great Northern, no information is furnished by the reports and none is forthcoming. Now that the ore holdings have been transferred to a separate set of trustees, the chief element of value in this asset has been eliminated. Though it may still be considerable, it does not compare with the Great Northern's other equity in the Burlington.

For a number of years the Burlington has been charging improvements to operating expenses, the amount of surcharge in

1906 probably being in the neighborhood of eight or nine million dollars. Estimating that the half of this would be equivalent to similar expenditures on other lines in the same territory, there would still remain a concealed surplus of at least four million dollars, half of which might have been claimed by the Great Northern. It is obvious, therefore, that the Great Northern has here an equity worth perhaps twenty to thirty millions and that in time of need it could, since its control of the Burlington is complete, add from one to two million dollars annually to its net income, at will.

The Great Northern has no such large land holdings as, for example, the Canadian Pacific and others but it has several hundred thousand acres from old land grants still remaining unsold and its cash receipts from this department in 1906 were $600,000.

The Ore Lands Contract.

In 1906 the Great Northern, through its representatives, contracted with the United States Steel Corporation for exclusive rights to mine its great bodies of ore in northeastern Minnesota, on a royalty basis. The price to be paid was $1.65 per ton, delivered at the upper Lake docks, with an increase of 3.4 cents per ton through each succeeding year. The minimum agreed to be mined is 750,000 tons for the year of 1907, and increasing by an equal amount each year until the output reaches 8,250,000 tons per annum, continuing thereafter, on this basis. The maximum output provided for in the contract would be reached in the year 1917. In this year the Steel Corporation will be paying $1.99 per ton for the ore, involving a total royalty of $16,500,000 per year. Needless to say, these are the minimum figures and it is expected that the actual output will be considerably exceeded. The contract is to run indefinitely, unless terminated, at the option of the Steel Corporation Jan. 1, 1915, two years notice to be given.

It is computed that there are upwards of 400,000,000 tons of iron ore covered by this contract, more optimistic figures being much higher even than this. It is easy to see, therefore, that unless the minimum out-take provided for be enormously exceeded, the life of these mines would extend over a long period. Subsequent to this contract, these ore bodies were transferred from the holding company, the Lake Superior Co., Ltd., to three trustees, consisting of President Hill and his two sons, James N.

and Walter J. Hill, to be held by them in trust and for the benefit of the shareholders of the Great Northern Railway. To the shareholders were issued Ore Certificates, so called, to the par value of their holdings of Great Northern stock, so that, supposing these certificates were worth par, this was equivalent to a 100% stock dividend.

But aside from the proceeds from the ore certificates, Great Northern proper will derive a considerable direct benefit from the haul of the ore from the mine mouth to the docks. At the present time it is estimated that this traffic amounts to in the neighborhood of five or six million tons annually; under terms of contract it will be seven and one-half millions the first year, with the addition of as much more in each succeeding year, for eleven years. This in itself will go far towards swelling the profits of the company.

Increase of Capitalization.

Since 1900, the Great Northern has added about $55,000,000 to its gross capitalization, almost the entire amount of the increase being in stock. Less than $4,000,000 has been added to its already very low bonded debt. The total increase amounted to a little over a quarter of the gross capitalization, while gross earnings in the same period almost doubled. The various items compare as follows:

Year	Common Stock	Funded Debt	Total	Gross Earnings
1900	$ 98,413,500	$ 96,753,697	$247,959,550	$28,910,789
1906	149,546,050	100,227,939	249,773,983	51,276,280

Increase over six years: Total capital, 28%; gross earnings, 77%.

At the close of 1906, the Great Northern offered to its shareholders $60,000,000 of new stock at par, which meant to the extent of 40% of their holdings; payments of the same to be extended over a period of two years.

Character of Traffic.

The Great Northern reports have never been lavish in the amount of information they afford and among other items usually reported, it does not give the character of its tonnage. When

the road was completed to the Pacific an enormous lumber trade was developed and in order to fill the westbound cars, the cotton trade and other merchandizing with Asian ports was energetically stimulated. In 1900 a steamship line to the Orient was organized for the purpose of still farther developing this trade. The ore carriage of the Great Northern to Lake Superior is also very heavy, although the haulage is short. In other words, in addition to the grain traffic, which would otherwise be the mainstay of the Great Northern, a wide variety of other tonnage has been gathered with quite extraordinary assiduity, so that despite its peculiar situation, the traffic of the Great Northern is probably as widely distributed as that of any railroad in the country. So important indeed has this ownership of ore lands become that a series of bad years such as the Great Northern's territory suffered after the collapse of the boom of the '80's might come now without affecting in any similar way the prosperity of the road.

Stability of Earnings.

From the bedrock year of 1896, the mileage and earnings of the system, including the Montana Central, the Willmar and Sioux Falls, and the Duluth, Watertown and Pacific, this being known as the railway system proper, but not including the Spokane Falls and Northern, the Minneapolis Union Railway, the Minneapolis Western Railway, and the Duluth Terminal, operated separately, have been as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	4,415	$19,436,061	$4,402
1897–8	4,466	22,577,544	5,055
1898–9	4,786	25,017,904	5,227
1899–0	5,076	28,910,789	5,695
1900–1	5,202	28,350,690	5,450
1901–2	5,249	36,032,256	6,864
1902–3	5,490	40,785,647	7,429
1903–4	5,623	40,057,353	7,124
1904–5	5,723	43,526,088	7,605
1905–6	5,906	51,276,280	8,681

It will be seen that with an increase of less than 40% in mileage, the earnings of the system have risen from $19,000,000 in 1897, to over $51,000,000 in 1906. In other words the gross earnings per mile within this period have more than doubled. The gross earnings of the four roads noted above as operated separately, swelled the earnings of the Great Northern lines to $53,000,000 in 1906.

Mr. Hill has pointed out that this enormous increase in earnings on the Great Northern has not been derived as on so many eastern roads, as for example the Pennsylvania, the Baltimore and Ohio, etc., from a heavy increase of freight rates, but on the contrary in the face of a heavy reduction. The report for 1905 prints a very interesting table showing the reduction in the average rate per ton-mile for a quarter of a century. It was as follows:

1881	2.88c.
1890	1.25c.
1900	.89c.
1905	.79c.

In the meantime the number of revenue tons hauled one mile had risen from 93,000,000 to 4,170,000,000; and the report points out that had the tonnage of 1905 been carried at the rates of 1881, the freight revenue received would have amounted to $120,000,000 as against $33,000,000 actual. In other words the freight rates had been cut down more than 70% within 25 years; and Mr. Hill's policy has been to promote as steady a reduction in rates as the business conditions would permit. The intent of the new low grade road from Spokane Falls to Portland is to provide the Hill lines with a western outlet through which freight can be carried at a minimum charge; and as the part of the Great Northern from Spokane to the coast was that involving the heaviest grades, and the greatest expense, the new line is expected to make the road practically impregnable in its ability to make low through transcontinental rates.

Maintenance.

One very remarkable achievement of the Great Northern has been an "operating ratio" of 50%, in the face of a general average of about 69% for the whole country, and a matter of 70% to 75% on many prosperous roads. This extraordinary low ratio of running expenses to earnings has been skeptically looked upon by many as "mere bookkeeping." It is forgotten that most railway statistics outside of gross earnings and actual interest and rental charges are mere bookkeeping, and that the Great Northern is not alone in charging only its actual necessities under the item of maintenance, and then devoting large sums from surplus to improvements. But it is partly in this way that the operating

ratio of the Great Northern has been kept down to its remarkable figure. The maintenance charges for the road for a period of six years have been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	477,076	$846	$452	$1,298
1901–2	607,776	985	519	1,504
1902–3	656,982	960	566	1,526
1903–4	596,088	904	559	1,463
1904–5	728,666	973	655	1,628
1905–6	835,342	1,092	816	1,908
Average	650,321	$960	$594	$1,554
Can. Pac......	458,589	850	1,002	1,852
Nor. Pac......	729,102	1,300	791	2,091
Union Pac....	739,206	1,173	1,049	2,222
Atch..........	577,005	1,123	1,113	2,236
Sou. Pac.....	594,848	1,446	1,246	2,692
Burlington....	580,024	1,104	1,032	2,136

It is to be remembered that the Great Northern's passenger service contributes less than 20% to the gross earnings, though the Northern Pacific, for example, was a little higher in this regard. Bearing this in mind, it will be seen that with a traffic density considerably higher than that of the Atchison, the Southern Pacific or the Burlington, the Great Northern expended for maintenance on the average from $600 to $1,000 per mile less. On nearly 6,000 miles of railroad, this would have meant a difference in the surplus shown by the Great Northern of from three and a half to six million dollars per year, on the average; or conversely, had the Atchison and other roads kept their maintenance charges down in the same way their surpluses would have been over $5,000,000 per year larger for the Atchison, $9,000,000 for the Southern Pacific and perhaps $5,000,000 for the Burlington.

The Northern Pacific traffic density was somewhat higher than that of the Great Northern, but its average maintenance charges were also $500 per mile higher. Even the Canadian Pacific, with a traffic density one-third less, stands on the average at $300 per mile more than the Great Northern, a difference which would have swelled its surplus by two and a half million dollars per year.

The year 1906 saw no change in this quite extraordinary difference in maintenance charges between the Great Northern

and all its rivals, and the following table is of quite striking interest:

	Traffic Density	Way	Equipment	Total
Northern Pacific.....	971,344	$1,387	$1,098	$2,485
Atchison............	693,873	1,479	1,271	2,750
Burlington..........	713,568	1,271	1,533	2,804
Southern Pacific.....	678,554	1,775	1,554	3,329
Union Pacific........	990,815	1,519	1,222	2,741
Great Northern.......	835,342	1,092	816	1,908

It will be seen from the above, that the nominal expenditures of the Great Northern, on a much higher traffic density, were $850 per mile less than the Atchison, and $1,400 per mile less than the Southern Pacific. In other words, had the Great Northern's maintenance charges been on an Atchison basis, its nominal surplus would have been $5,000,000 less than it was, and on a Southern Pacific basis $8,000,000 less; or on a Great Northern basis the Atchison surplus would have been $6,000,000 more than it was for 1906, and the Southern Pacific's surplus would have been $10,000,000 or $12,000,000 more.

The character of the Pacific roads is, broadly speaking, much the same. At least such difference as exists would in no wise account for this wide disparity of maintenance charges.

This disparity helps to account for the fact that the Great Northern showed a 50% "operating ratio", while the Atchison's was 62% and the Southern Pacific's, 64%.

Improvements from Earnings.

This economy in maintenance charges, however, has been to a large extent made up by very heavy appropriations from earnings for permanent improvements and renewals. The appropriations from 1898 compare as follows:

1897-8.........................	$2,250,000
1898-9.........................	1,800,000
1899-0.........................	1,800,000
1901-2.........................	2,000,000
1902-3.........................	3,000,000
1903-4.........................	2,000,000
1904-5.........................	3,000,000
1905-6.........................	5,130,910
Total.................	$20,980,910

It will be seen that in 1906 the special appropriations added about 50% to the actual expenditures for maintenance, which totalled a little over $10,000,000 for the year.

But the Great Northern has not been extraordinary. Within the same period the Northern Pacific, with an average expenditure of maintenance nearly one third higher than the Great Northern has set aside $26,081,000 for improvements; the Atchison from 1901, $15,859,000; the Union Pacific, $19,885,775.

It will be seen that the Great Northern's appropriations of surplus have not been much larger than those of other roads of a similar type, so that the difference of its maintenance charges from other roads still remains and would operate considerably to reduce the large nominal surplus which it has shown within recent years.

Surplus Earnings.

It should be understood that the items of surplus shown below are not those given in the Great Northern reports, since in the make-up of the road's income account, the total income shown, i. e., the surplus, is after charging off special appropriations for renewals and improvements instead of before as is the usual practice in railroad reports. So, for example, in the report for 1906, the surplus shown before payments of dividends is $5,-130,910 less than the amount shown in the table below, and as much less in each of the previous years as the appropriations given in the table above.

The comparison on the uniform basis adopted in this book, is as follows:

Year	Surplus	Per cent. Earned on Stock	Dividend Paid on Stock	Average Price
1900–1	$9,388,982	7.6	7%	192
1901–2	14,526,521	11.8	7	188
1902–3	15,496,022	12.5	7	189
1903–4	14,171,678	11.4	7	187
1904–5	16,587,643	13.3	7	291
1905–6	19,984,915	13.3	7	312

Dividend Record.

Nominally the dividends shown since the organization of the St. Paul, Minneapolis and Manitoba have been as follows:

Year.	Manitoba.
1881	3
1882	9
1883	8
1884	7½
1885-1906	6
	Gt. Nor.
1890	1
1891	4¾
1892-6	5
1897	5½
1898	6¼
1899-1907	7

As a matter of fact, the dividends shown above reflect but the minor part of the actual returns received by Great Northern stockholders. The Great Northern is one of the roads which have from time to time given its shareholders very valuable rights. Mention has already been made, for example, of the offering of bonds in 1883 which amounted to a 40% dividend. The Great Northern was organized in 1889, and in the seventeen intervening years the company has increased its capital stock from twenty million dollars to one hundred and fifty millions, of which all but twenty-five million dollars has been sold to the stockholders at par or less.

The amount of these stock offerings, the percentage to which each subscriber might add to his holdings, the market price at the time of the offerings, and the market value of the rights have been as follows:

Year	Amount	Per Cent.	Market Price	Value of Rights
1905	$25,000,000	20	320	38
1901	25,000,000	25	200	24
1900	9,000,000	10	170	60
1899	15,000,000	20	190	14
1898	25,000,000	100	176	*108
1893	5,000,000	25	120	5

*Stock dividend included.

In 1898 the stock of the Seattle & Montana Railway, a subsidiary company, was distributed to the shareholders to the ex-

tent of 50% of their holdings and this stock was then exchanged to 80% of its par value for Great Northern stock. The latter was selling then at the lowest at $125 per share. This was equivalent to a cash dividend of 50%, which added to $58 cash value of the subscription rights for that year, made the total extra dividends for the year amount to at least $108.

From all this it will be seen that had the original shareholder in the Great Northern from 1889 systematically sold his rights, he would have received in addition to 86% in dividends, at the least 215% in cash value of his rights. That is, the value of the rights averaged very nearly 12.5% a year.

Had the rights not been sold, but taken up by the shareholders themselves, it has been estimated that the original shareholder of 1889 who still held in 1906 all the stock he had subscribed for would have had at 1906 prices, a profit of about 900%.

At the close of 1906 the shareholders were offered new stock to the extent of 40% of their holdings at par. The stock was then selling, ex-ore certificates, at around $230 per share, at which figure the rights were worth around $40. Owing to the litigation, instigated by the State of Minnesota, the share issue was held over and in the meantime the stock slumped violently to around $126 per share, at which figure the cash value of the rights was worth less than a quarter as much.

Very plainly the Great Northern road has been managed for the benefit of all its shareholders and not simply that of a few insiders. Probably it is this fact, which, in connection with the great value of its leases, has given so high a premium to Great Northern stock.

The Balance Sheet.

As further evidencing the financial strength of the road, the balance sheet of June 30, 1906, showed:

Current assets of....................		$23,266,493
Current liabilities..........	6,690,100	
Deferred liabilities.........	1,082,519—	7,772,619
Leaving a working balance of.........		$15,493,874

There was an aggregate item of cash on hand of $13,783,808.

It is to be noted that among the items of "Contingent Liabilities, renewal funds, etc.," there were surplus funds of proprietory companies deposited with the Great Northern Railway Company of $9,172,469. Probably a considerable portion of this represents the accumulated surplus of the Lake Superior Company.

The total credit balance to Profit and Loss of the Great Northern and its proprietary companies in 1906 was $27,603,558.

Land Department.

The land grants inherited by the company from its predecessors amounted to a net total of somewhat over 800,000 acres, which further adjustments with the government will reduce to less than 200,000 acres, remaining unsold. During the year of 1906, 3,270 acres were sold at an average of $9.81 per acre.

On this basis the remainder of the Great Northern's land grants might be estimated as worth between one and two million dollars.

Extensions.

Jointly with the Northern Pacific, the Great Northern is building a new line from Portland and Vancouver into Spokane and Eastern Washington. It is quite characteristic of the Great Northern's reports that neither that for 1905 nor for 1906 contains a line of mention of this important project. It is referred to briefly in the reports of the Northern Pacific. The line is known as the Portland & Seattle Railway Company and follows the north bank of the Columbia River and will be very nearly a water grade line. It is one of the most expensive pieces of first construction in western railroading and is estimated to cost upwards of $30,000,000; that is, $60,000 to $70,000 per mile for 423 miles of line.

The importance of this new line lies in the fact that it will provide the two sponsor roads with transcontinental lines crossing but a single mountain range; that is to say, it will cut out the crossing of the Cascades in Washington. No other transcontinental line will have less than three range crossings. It is a part of the scheme outlined by President Hill in a speech sometime ago in Spokane, wherein he said that by the time the Panama Canal was completed, his lines would have a freight

way across the continent, carrying traffic so cheaply that lily pads would grow in the canal.

This line is of especial interest, too, in considering the invasion of the Great Northern-Northern Pacific territory by the new extension of the St. Paul to the coast. Against the single range which the Hill lines will then cross, the St. Paul will cross four.

In addition to all this, President Hill has outlined an ambitious project for the extension of the Great Northern into Canada, amounting practically to the construction of a new trunk line from Winnipeg west, probably to the base of the Rocky Mountains and lying between the Canadian Pacific and Canadian Northern lines. This is the same great territory that will be crossed by the new Grand Trunk Pacific, so that when all the new construction under way or projected for the Canadian Northwest is completed, it will have four great trunk lines instead of one, as at present.

It is fairly clear that President Hill means to make these extensions tributary to the main system, and doubtless to his steamship lines on the Great Lakes. This Canadian territory has been enjoying a tremendous boom within the past few years, in almost every respect paralleling the famous Dakota boom of the '80s. Millions of home seekers have gone into this far northern country to take up the rich wheat fields it contains, and it is estimated that to keep up with, and further to stimulate, this immense tide of immigration, some 5,000 miles of railway are planned and building. In the natural business cycle it seems almost certain that a reaction will set in, but so far as the Great Northern is concerned, it is to be noted first of all that President Hill has already built one road, a transcontinental road at that, and carried it successfully through the heaviest depression this country has known since '73-'77; further, that this reaction may come before the lines are completed and that they may not be built as rapidly as contemplated.

It is significant of the Hill policy that all these Great Northern extensions are being made without a dollar of subsidy or a dollar of bonds; that is, wholly through stock issues.

Beyond all this, the Great Northern has a line which is pushing through Western Nebraska from Sioux City with nominal objective in Denver, thus invading distinctively Union Pacific

territory. Other smaller constructions are constantly adding to its mileage.

Investment Value.

It is obvious from what has preceded that Great Northern is a stock which has offered quite extraordinary inducements to investors who were content to hold it for a period of years. On the basis of its nominal dividend, the yield, on a price of $300 per share, is only a little over 2%. If, however, the investor were to include the cash value of rights, he will find that from 1899, when the Great Northern was put on a 7% basis, to 1906, the rights amounted to more than 11% per annum to say nothing of the 75% dividend in ore certificates, and to a great deal more than that to the shareholder who exercised his subscription rights.

The actual average return for a period of seven years has been around 18%, and including the cash value of their ore certificates of 1906, around 28%. This, on a basis of $300 per share would mean a yield of from 6 to 9% on the investment.

If, through the building of the new Spokane Falls-Portland line, the Great Northern's extensions in Canada and the lease of the ore lands, the average could be maintained, the Great Northern would more likely average above $300 per share through this period than below it. Mr. Hill takes an intense pride in the property of his road, and justly; his fortune is made, and there is no reason to suppose that his stockholders will fare any worse in the future than in the past.

What then is to be said of the heavy slump in Great Northern at the beginning of 1907, when in the stock panic of March 14, it touched as low as $126 per share, which, with prospective rights worth about $8 per share, was equivalent to around $120. This was by far the lowest point which Great Northern has touched in many years. Combining this price, rights included, with the low figures for the ore certificates of $50, this was equivalent to a valuation of $176 per share, as compared with the high figures of $348 reached in 1906. This was a drop of nearly one-half, a tremendous fall. No other solid stocks, save the Northern Pacific showed anything like such a decline. It is well known that this heavy fall was a surprise even to those supposed to be in close association with the Great Northern management, for it is equally well known that they had advised the purchase of Great Northern at considerably above $300 per share.

Among other explanations offered, was the heavy selling of the stock by the Union Pacific, which disposed of the large part of its interests acquired through the dissolution of the Northern Securities Company; the extension of the St. Paul to the Pacific, invading Hill territory; and the rather hostile attitude assumed by the Minnesota authorities toward the proposed issue of new securities.

It is true that, as already noted, the high price of Great Northern has been due to the large profits accruing periodically from the substantial "rights" offered to stockholders, and it was assumed that official or legislative action might seriously interfere with this very agreeable process. The decline was further helped by the suit brought by the State of Minnesota for the abrogation of the charter of the St. Paul, Minneapolis and Manitoba, the chief constituent of the Great Northern system, this action being taken on the ground that in its stock issues the parent road had exceeded the terms of its charter.

There is no doubt that the generally hostile spirit towards the railways, which reached a somewhat acute stage in the winter of 1906-7, would, if continued, tend materially to depress railway values, and especially of those roads lying in states where opposition to the railroads is a popular political card. For this reason, it is very difficult to estimate the future course of the Great Northern securities, but it is to be noted that there are other methods of "belling the cat" than the especial form of stock issues to shareholders at much below the market value. Should, therefore, the territory covered by the Great Northern experience no heavy depression, it may be assumed that the liberal policy of the company towards its shareholders will be continued in one form or another, and even if it were not, should earnings continue as heavy as in the past 10 years, they would be adding constantly to the value of the property, whether distributed in dividends or put back into the road.

In any event, Great Northern may be looked upon as perhaps as solid a seven per cent. security as is to be found in the country, and with its splendid management, it would tend to sell certainly as high as any similar security. It should be worth well around $175 per share without further prospects, and if purchased at any considerable recession from this price, would certainly be an attractive issue, liable to show large profits if put away and held.

Ore Certificates.

As to the value of the ore certificates, it seems to be generally assumed that they will be able to pay a 2½% dividend, at least, in 1907, with a steady increase in this dividend from the increased revenues provided under the contract with the United States Steel Corporation. With these prospects it would seem that these certificates should eventually sell around par, and purchased at around the low prices of 1907—$50 per share—would be an equally attractive investment. Apparently the sole factor which would militate against a higher price is the fact that thus far the certificates represent simply shares in a blind pool, concerning which little or no information has been offered. The ore properties are absolutely in the hands of the three trustees, President Hill and his two sons. But the income of these certificates is in some sense doubly guaranteed, first of all by the contract with the Steel Corporation, and secondly by the great body of ore which the certificates cover. This ore must be of constantly increasing value and it seems likely that the annual output called for by the contract will be exceeded, rather than held to the minimum limit imposed.

It is not improbable that after the slight panic occasioned by the circumstances narrated above has passed, both the ore certificates and Great Northern stock will tend to sell, in the long run, at very much higher figures.

HOCKING VALLEY RAILWAY.

The Hocking Valley is a coal road, through central Ohio, from Toledo to the Ohio River. It directly operates 347 miles of road and owns practically all of the capital stock, both common and preferred of the Toledo & Ohio Central, a parallel road throughout almost the entire length, operating 441 miles. On August 1st, 1906, it also owned a majority of the outstanding stock of the Kanawha & Michigan, operating a total of 177 miles and extending the system into West Virginia, on the line of the Chesapeake & Ohio. This stock was apparently taken over from the Toledo & Ohio Central, by which it had been owned since 1890. In August, 1906, the plan was brought out for the consolidation of the Hocking Valley and the Kanawha & Michigan, but this plan was postponed partly on account of the bond market, partly on account of the suit brought by the attorney general of Ohio to prevent the consolidation, on the ground that it was a violation of the Valentine trust law of that state.

In 1903 practical control of the Hocking Valley was secured jointly by five roads through the purchase of $6,924,200 of the outstanding common stock, the purchasing companies being the Pittsburgh, Cincinnati, Chicago & St. Louis, one-third interest, and the Baltimore & Ohio, Chesapeake & Ohio, Lake Shore & Michigan Southern and Erie Railroad one-sixth interest, each, the purchase being on a basis of $103 per share. This stock is held in trust by J. P. Morgan & Co., that firm issuing 5% "participating certificates" to the amount of the purchase price, secured by the stock and guaranteed by the several purchasing companies.

The Hocking Valley Railway was the successor, in 1899, of the Columbus, Hocking Valley & Toledo Railway, and valuable coal properties were taken over at the time of the reorganization.

In 1906 the directorate included president N. Monsarrat, vice-president Ralph W. Hickox, second vice-president James H. Hoyt, R. M. Gallaway, president Merchants National Bank, New York; Charles B. Alexander, S. P. Bush, W. N. Cott, A. H. Gillard, C. G. Hickox, P. W. Huntington, Thomas F. Ryan, R. S. Warner, and H. R. Wilson.

Capitalization.

As of June 30th, 1906, the capital account stood as follows:

Common stock	$11,000,000
Preferred stock	15,000,000
Total stock	$26,000,000
Funded debt	20,770,524
Nominal capital	$46,770,524
Rentals cap. at 4%	5,675,000
Approx. gross capitalization	$52,445,524
Securities held	12,894,681
Approx. net capitalization	$39,550,843
Average net capital. per mile	$113,970
Average miles operated	347
Net earnings on net capitalization	6.2%
Stock on net capitalization	65%
Fixed Charges on Total net Income	31%
Factor of Safety	69%

It will be seen that the estimated net capitalization is high even for a road earning as it did in 1906, $18,558 per mile. The showing of net earnings on net capitalization, 6.2%, was after very heavy maintenance, and this figure would be increased if these charges had been more nearly on the same basis of other roads in the same territory.

It will be seen that the larger part, almost two-thirds, of the net capitalization was represented by stock and in 1906 fixed charges consumed only 31% of the total net income, even after the heavy maintenance charges noted. This left a high margin of safety for the underlying securities.

The item of securities owned includes $1,237,500 equipment notes of the Kanawha & Michigan Railway. The balance includes over 99% of the stock of the Toledo & Ohio Central out of a total of $6,500,000 common, and $3,708,000 preferred. Although the securities held are not itemized by the report, the figure given presumably included also the $4,510,000, par value of the Kanawha & Michigan, representing a controlling interest in that road. On the Toledo & Ohio Central stock no dividends had been received for some years, but the earnings of that road in 1906, after heavy maintenance charges, and before charging off large appropriations for improvements, were equivalent to 5% on the preferred and 6.3% on the common. In other words, the Hocking Valley's equity in the earnings of the Toledo & Ohio Central for 1906 were nominally in excess of half a million dollars, and, actually, considerably more.

No dividends were paid likewise by the Kanawha & Michigan and its nominal net surplus was equivalent to only about 3.3% of the stock. This, however, was after very heavy charges for maintenance and the actual earnings on a normal maintenance basis were probably more than twice this.

Stability of Traffic.

The Hocking Valley is very largely a coal road, the coal tonnage for 1906 representing over 60% of the entire tonnage. The earnings since the reorganization have compared as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1899–0........	346	$4,417,267	$12,766
1900–1........	347	4,653,258	13,409
1901–2........	347	5,316,523	15,321
1902–3........	347	6,049,598	17,434
1903–4........	347	5,725,483	16,500
1904–5........	347	6,013,215	17,330
1905–6........	347	6,439,809	18,558

Maintenance.

The traffic density and maintenance for a period of six years have compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	2,437,218	$1,489	$2,154	$3,643
1901–2.......	2,891,561	1,637	2,479	4,116
1902–3.......	3,034,866	1,747	3,229	4,976
1903–4.......	2,553,133	1,701	3,377	5,078
1904–5.......	2,877,743	1,877	3,728	5,605
1905–6.......	2,875,387	1,984	3,819	5,803
Average......	2,778,318	$1,739	$3,131	$4,870
Tol. & O. Cen.	1,423,424	$1,225	$1,471	$2,696
Tol.St.L. & W.	1,046,139	996	959	1,955

It will be seen that the maintenance charges have been very high, and would compare with eastern trunk lines of similar traffic density. Probably the maintenance charges for 1905 and 1906 were considerably in excess of $1,000 per mile over the actual needs of the road, and this amount might legitimately be added to the surplus shown for these two years. But on the other hand, these charges include the appropriations for improvements and there were no separate items for this latter amount.

Surplus Earnings.

For a period of six years the surplus available for dividends has compared as follows:

Year	Surplus	Dividends on Preferred Stock	Per cent. Earned on Stock Capital	Dividends Paid on Common	Average Price Calendar Year
1900–1......	$1,354,177	3½	5.5	3	57
1901–2......	1,602,373	4	6.5	3	83
1902–3......	1,824,199	4	7.3	3	84
1903–4......	1,404,793	4	5.4	3	77
1904–5......	1,427,851	4	5.5	3	104
1905–6......	1,772,933	4	6.5	3	124

The dividend record of the road since its reorganization has been as follows:

	Preferred.	Common.
1900......................	3½%	..
1901......................	4	3%
1902......................	4	3
1903......................	4	3
1904......................	4	3
1905......................	4	3
1906......................	4	3

The Balance Sheet.

As of June 30th, 1906, the balance sheet showed:

Current assets	$4,343,861
Current liabilities	1,509,324
Leaving a working balance of	$2,834,537

The item of cash amounted to $2,007,644. The balance to credit of profit and loss was $4,721,990.

Not included in the capital account given were car trust bonds to the amount of $960,000. This was offset by advances to subsidiary companies of $2,999,819.

Consolidation Plan.

According to the circular issued to the stockholders of the Hocking Valley and the Kanawha & Michigan Railroads, the consolidation plan involved the retirement of the $15,000,000 of preferred stock of the Hocking Valley, which may be retired at par, and the exchange of $11,000,000 of common for $11,000,000 stock in the new company. In lieu of the $4,490,000 stock of the Kanawha & Michigan outstanding in the hands of the public, there was to be issued of stock in the new company, $2,694,000 par value, and in lieu of the remaining stock of the Kanawha & Michigan Company held by the Hocking Valley, amounting to $4,510,000 (the treasury stock to be cancelled), $56,000 of stock of the new company.

Holders of the preferred stock of the Hocking Valley were to be offered general lien 4% 30 year gold bonds to the amount of $110 for each $100 of the preferred stock. The exchange of common stock for stock in the new company was to be on a par basis, and the stock of the Kanawha & Michigan on a basis of $60 par value stock of the new company for each $100 of the old. Under this arrangement, $17,000,000 of the new general lien bonds would be exchanged for stock, and the total stock of the new company on this basis would be $13,750,000, as against a combined issue of $35,000,000 of stock of the two consolidating companies. The effect of this conversion plan would be to give the five roads holding a large majority of the common stock of the Hocking Valley, absolute control of the consolidated company. The balance of $13,000,000 of the proposed issue of general lien bonds was to be reserved for future issue.

Investment Value.

Hocking Valley preferred is redeemable at par, entitled to 4% non-cumulative dividends, but after 4% have been paid on both preferred and common, both classes of stock are entitled to share alike. The dividends have been paid in full since 1900. The yield from the bonds to be issued for this stock at $110, under the consolidation plan, would be slightly in excess of this, or 4.4%.

Dividends of 3% have been paid on the common stock since 1901. Reference to the surplus earnings will show that this has been comfortably earned and on a basis of less liberal maintenance charges, might readily have been increased. Under the conversion plan, the common stockholders receive new stock of the same nominal value but the actual value should be very considerably augmented—first, because the nominal capital of the combined roads has been reduced by $4,250,000, with very little increase in the fixed charges (as compared with the 4% dividends paid on the preferred stock of the Hocking Valley), and secondly, because the $13,750,000 of stock in the new company will have the entire equity in the surplus earnings of the combined roads. The earnings of the Kanawha & Michigan are amply sufficient to pay much more than a 3% dividend (as on the old Hocking Valley common) on the $2,750,000 of stock of the new company to be issued in lieu of the $9,000,000 stock outstanding.

In 1902, Hocking Valley common rose as high as $106 per share, declining in the subsequent reaction to $60. It rose to $121 in 1905 and as high as $135 per share in 1906. It is rather difficult to understand these high quotations, because there is only a little more than $4,000,000 of this stock outstanding and the control of the road is held absolutely by the five companies participating in the purchase of 1903. These prices would hardly have been justified by expectation of less than a 6% dividend and this dividend could scarcely have been paid unless the maintenance charges of the road had been considerably scaled. In May, 1907, the stock sold at $75 per share.

Unless a serious general reaction should ensue, vitally affecting the coal business, it does not seem improbable that the new Hocking Valley Company might readily earn the 4% required for the proposed issue of $17,000,000 of bonds, and comfortably

pay a dividend of 5 or 6% on the $13,750,000 stock of the new company. But the permanency of these dividends would rest upon the continuance of a high degree of prosperity in the coal industry and therefore should be considered on much the same basis as the stocks of the Baltimore & Ohio and other bituminous coal roads. Should the annual high interest rates of 1906 continue, the new Hocking Valley stock could scarcely be worth much above par, but were these interest rates to decline, it might readily sell at higher figures.

ILLINOIS CENTRAL RAILROAD.

Up to 1906, the Illinois Central was one of the great independent lines of the country and the chief north and south road of the Mississippi Valley. Its main lines reach from Chicago to New Orleans, to all intents, with its subsidiary lines, a double track the entire distance, and it has also an extension westward from Chicago through Illinois and northern Iowa, to Omaha, Sioux City and Sioux Falls.

The Illinois Central directly operates 4,459 miles and with the 1,239 miles of its subsidiary, the Yazoo and Mississippi Valley, a total of about 5,700 miles. The gross earnings of the entire system in 1906 were above sixty million dollars. The capitalization is moderate; the road has been under sound and conservative management and its securities and its stock have commanded a high premium.

History.

Even while Chicago was still a village an attempt was made to raise money to build a line connecting Lake Michigan with the Ohio River. This was far back in 1834, when the Erie and the Baltimore and Ohio had just been started, and the people of this Far West of America sought more rapid communication with the East; but it was not until 1851 that the Illinois Central Railroad was chartered.

Through the government it had received a magnificent land grant, a strip twelve miles broad running north and south throughout Illinois. In lieu of taxes the company was to pay the state 7% of its gross earnings, on its original 700 miles of road in Illinois. Between 1852 and 1871 the road had realized no less than $24,000,000 from the sale of these lands, or quite enough to pay for the Illinois property outright. The line from Chicago to Dubuque was begun in 1855, and the through line to Cairo at the junction of the Ohio and Mississippi in 1856. The

construction and leasing in 1867 of the Dubuque and Sioux City carried the line through Iowa, and in 1882 the Chicago, St. Louis and New Orleans was leased and its stock absorbed, and this carried the lines of the system south from Memphis to New Orleans. The purchase of the Louisville, New Orleans and Texas and its consolidation with the Yazoo and Mississippi Valley in 1882, with subsequent constructions, has given the road a perfect network of lines extending down the eastern side of the Mississippi, through Illinois, Kentucky, Tennessee and Mississippi. An extension, with trackage rights, will carry the road into Birmingham, Ala., and another extension into Indianapolis.

The peculiarity of the Illinois Central is the fact that it is practically a watergrade line throughout its main length, and that with an average freight rate of only .55c per ton per mile, it is able to earn large profits. Within very recent years it has likewise profited by the increasing popularity of the Gulf as a grain route from the fields of the west, a competition that is now being keenly felt by the eastern trunk lines.

Ownership.

The Illinois Central from its organization had enjoyed an exceptional degree of independence, its stock being widely distributed, and no single interest dominating. In 1905 it reported 9,123 shareholders. The formation in 1902 of the Railroad Securities Company introduced a new element into the question of control. The company was formed by a union of the Fish, Speyer and Harriman-Kuhn Loeb interests, owning then about $8,000,000 of Illinois Central stock, and the company was formed for the purpose of further purchases. The Speyer holdings were sold to the Harriman interest with the result of considerably increasing the Harriman influence in the Illinois Central, and in 1906 this interest came into practical control.

For years President Fish had voted the majority of the stock from proxies held, and in 1906 still held a majority by proxy, outside the Harriman holdings. But in the following election of president by the trustees, eight of the directors voted against Mr. Fish and chose J. T. Harahan president. The directors voting for Mr. Harahan were J. T. Harahan, E. H. Harriman, Chas. A. Peabody, President of the Mutual Life Insurance Company and formerly attorney of the Astor estate; J. W. Auchincloss, a mem-

ber of the so-called white-washing Investigating Committee of the Mutual Life Insurance Company, from which Mr. Fish has resigned because of the refusal of the committee to make a more thorough examination of the company's officers; John Jacob Astor, Robert W. Goelet, of the Goelet estate; and Cornelius Vanderbilt.

Of these. Messrs. Harriman, Peabody and Goelet are directors of the Union Pacific. Mr. Harahan was then second vice-president of the Illinois Central and had long been closely associated with Mr. Fish.

Supporting Mr. Fish were Governor Chas. S. Deneen, ex-officio director, as Governor of Illinois; Chas. M. Beach, James DeWitt Cutting and John C. Welling, vice-president, the latter not present at the meeting.

It appeared subsequently in the testimony taken by the Interstate Commerce Commission that the Union Pacific had purchased the holdings of the Railroad Securities Company, chiefly owned by Mr. Harriman, the president of the Union Pacific, and had otherwise acquired sufficient stock to bring the total up to about 29% of the $90,000,000 of outstanding stock. This stock was purchased by the Union Pacific at about $175 per share, or very nearly the top price reached by the stock during the struggle of the Harriman-Fish interests for control. A few months subsequent to this purchase Illinois Central stock was selling at around $135 per share.

Capitalization.

Ten millions of Leased Lines stock was issued in exchange for an equal amount of Chicago, St. Louis, New Orleans stock and is secured by a deposit in trust of the latter stock. It is guaranteed at the rate of 4% per annum and in case of default for sixty days in any semi-annual payment the holders of the certificates will be entitled to the return of the stock so pledged. In the following table this stock has been included as a part of the interest debt of the company.

On June 30th, 1906, the capital account stood as follows:

Common stock	$95,040,000
Funded debt, Ill. Cent	128,660,275
Funded debt, C. St. L. & N. O	16,234,000
Leased line stock (4% guar.)	10,000,000
Total capital	$249,934,275
Rentals capit. at 4%	28,680,000
Approx. gross capit	$278,614,275
Securities held	60,315,548
Approx. net capital	$218,298,727
Approx. net capital. per mile	$49,790
Average miles operated	4,424
Net earnings on net capitalization	7.9%
Stock on net capitalization	43%
Fixed Charges on total net income	47%
Factor of Safety	53%

The item of rentals capitalized is the $1,187,000 net interest paid as the rental on the Dubuque and Sioux City.

With this addition it will be seen that the approximate net capitalization amounts to $49,790 per mile as against, for example, a similar estimate of $114,480 per mile for the Alton; $39,684 for the Louisville and Nashville, and $46,710 for the St. Louis and San Francisco.

This capitalization is very moderate for a road of the strength and position of the Illinois Central and in the face of rather unusual maintenance charges, the net earnings of 1906 showed 7.9% on this estimated net capitalization. This figure stood against similar estimates of 3.7% for the Alton; 8.9% for the Louisville and Nashville; and 4.8% for the St. Louis and San Francisco, all roads of more or less the same character.

It will be seen that the stock amounts to considerably less than half of the estimated net capitalization but the credit of the Central is high, and even after the maintenance charges already referred to, Fixed Charges consumed only 47% of the Total Net Income, leaving a Factor of Safety on the underlying securities of 53%.

Equities Owned.

On the $60,000,000 of securities owned in the treasury, the company received in 1906 a net of $3,255,398, equivalent to 5.2% on the book valuation.

These securities are rather widely distributed and are chiefly the stocks and bonds of leased lines. The most notable item and the only one in which lies any considerable equity, is $9,104,000 5% second mortgage bonds of the Louisville, New Orleans and Texas; and $9,904,000 land grant income bonds of the same road. This is now a part of the Yazoo and Mississippi Valley. On the land grant bonds no interest has ever been paid, and there is no great prospect that any will be paid in the immediate future. In regard to the second mortgage bonds, it is provided that the interest is only to be paid when so determined by the board of directors, but the interest is cumulative, and in case less than 2½% is paid, the unpaid interest, with the interest on the interest at 5%, is carried forward to the credit of the bonds for subsequent payment. On these bonds the Illinois Central received payments from 1893 to 1903, ranging from $1,980,000 to $1,016,000 per annum. None has been paid since, and in 1906 the arrears of interest on these bonds amounted to $6,567,843. This is not carried on the books of the Illinois Central as an asset, but the arrearages would necessarily absorb the surplus earnings of the road for some years to come. In the discussion on the Yazoo and Mississippi Valley, it will be seen that the maintenance was so heavily charged that there was a considerable excess maintenance charge amounting to perhaps $700 per mile, and this on the total mileage, would have left a surplus on the year's earnings of the road of about $850,000, which might legitimately have been paid into the treasury of the Illinois Central.

Increase of Capitalization.

Through the sale of stock at par to stockholders in 1901-2, the capital stock of the road was increased by about 50%, and the sum so derived was devoted mainly to double tracking and other improvements which are now almost complete. In 1906 there were 750 miles of extra main track on the whole line. The larger part of the increase in Funded Debt is due to the issue of

purchase line bonds distributed over about 730 miles of added track. The comparison of increase for six years is as follows:

Year	Common Stock	Funded Debt	Total Capital	Gross Earnings
1899–1900....	$60,000,000	$130,873,925	$190,873,925	$32,611,967
1905–1906....	95,040,000	154,894,275	249,934,275	51,636,405

Increase over six years: Total capital, 31%; gross earnings, 60%.

Character of Traffic.

The Illinois Central is one of the few roads giving very full reports of its operations which does not itemize or give any indication as to the character of its traffic. That this traffic is in general of low grade is indicated in the low average rate per ton per mile. This amounted to only .58c in 1905 and .55c in 1906. The decrease in 1906 was probably due in part to the increased carriage of grain to the Gulf.

Stability of Earnings.

Since 1896 the mileage and earnings of the road have stood as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6........	3,067	$22,002,842	$7,174
1896–7........	3,130	22,110,938	7,064
1897–8........	3,775	27,317,820	7,236
1898–9........	3,671	28,114,690	7,658
1899–0........	3,845	32,611,967	8,481
1900–1........	4,215	36,900,460	8,754
1901–2........	4,276	40,821,030	9,546
1902–3........	4,293	45,186,077	10,526
1903–4........	4,340	46,831,136	10,790
1904–5........	4,374	49,508,650	11,319
1905–6........	4,424	51,636,405	11,672

It will be seen that with about a fifty per cent. increase in operated mileage, the gross earnings have increased more than one hundred per cent., raising the average per mile from $7,174 in 1896 to $11,672 in 1906.

This increase was very gradual and reflects the solid character of the road.

Maintenance.

The Illinois Central is from the lie of its lines unusually subject to flood damage, and its maintenance of way is therefore considerably higher than that of other roads in the middle west. For example, the maintenane of way of the St. Paul in 1906 was $855 as against $1,549 for the Central, but it should be remembered that the traffic density of the Central is double that of St. Paul. The items through a series of years have been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	952,808	$1,390	$1,033	$2,423
1901–2	1,041,177	1,321	1,237	2,558
1902–3	1,205,816	1,376	1,455	2,831
1903–4	1,202,929	1,308	1,675	2,983
1904–5	1,270,977	1,393	1,778	3,171
1905–6	1,408,403	1,549	1,740	3,289
Average	1,180,351	$1,389	$1,486	$2,872
Extra main track, 750 miles.				
Alton.........	1,099,515	$1,371	$1,273	$2,644
L. & N.......	929,594	1,490	1,537	3,027
St. L. & S. F.	448,625	814	703	1,517

Improvements From Earnings.

In addition to the very liberal maintenance, the following appropriations have been made from the surplus earnings for improvements:

1900-1	$3,145,400
1901-2	4,340,172
1902-3	4,881,253
1903-4	2,579,329
1904-5	1,683,886
1905-6	4,164,739
Total, six years	$20,794,779

These heavy appropriations indicate the highly conservative character of the management, and its disposition to charge improvements to earnings.

Surplus Earnings.

Before charging off Surplus Earnings the annual surplus from 1901 has been as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$6,967,659	10.5	6	130
1901–2	9,790,462	12.4	6	140
1901–3	10,729,393	11.2	6	149
1903–4	8,865,928	9.3	6	134
1904–5	10,135,342	10.6	6 and 1%	136
1905–6	10,862,339	11.4	7	166

It will be seen that in 1906 practically all of the surplus earnings over and above the 7% dividend was turned back into the road.

Dividend Record.

The Illinois Central, through three great periods of depression has still been able to keep on its feet, and continue its dividend payments. Since the opening of the road, from 1865 to 1906, $120,000.000 has been received by the stockholders in dividends, in addition to the scrip distributions. In the same period the company has received for improvements from income over $110,000,000 in cash. In forty years the road has never missed a dividend. The dividend record since 1865 stands as follows:

Year	Per cent.
1865–73	10
1874–6	8
1877	4
1878–80	6
1881–2	7
1883	8 and 17% in Chi., St. L. & N. O. stock exchangeable for leased line certificates.
1884	10
1885	8
1886	7½
1887–8	7
1889	5½
1890	6
1891–9	5
1900	5½
1901–4	6
1905–	6 and 1% extra.
1906	7

The Balance Sheet.

The balance sheet as of June 30th, 1906, showed:

Current assets		$7,337,693
Current liabilities—		
Payable on demand	$6,513,930	
Payable at future dates	3,076,757—	9,590,687
Leaving a debit balance of		$2,252,994

Of the assets the item of cash was $1,591,523.

The balance to credit of profit and loss was small, amounting to $3,160,960.

In addition to these items there was about $5,500,000 carried in various special funds for improvements, etc.

Investment Value.

The Illinois Central has always been highly prized as an investment stock both at home and abroad, and quotations on the stock have ruled high. From 1901 to 1904 inclusive 6% dividends were paid, and in this period the price ranged from $124 to $173 per share, reaching the latter figure in the boom of 1902. In the slump of 1904 the stock declined to $126.

In 1905 an extra dividend of 1% was declared, and in 1906 the road was put upon a regular 7% basis. The stock reached a record price of $184 in June of 1906. This high figure was undoubtedly due to the fact that all the available supply was being picked up in the Harriman struggle for the control of the road.

There is very little stock in the market, and it is for the most part closely held. Control of the road would undoubtedly command $200 per share or more, but in the decline of 1907 the stock fell as low as $134 per share. The road is amply earning its dividend; it is being liberally maintained; large sums are being turned back for improvements; in its own territory it is almost impregnable; in brief, there are few railway properties in the country in as solid position financially and otherwise, as the Central. Its extension has been steady though not rapid. Its policy is very conservative, and under the Fish regime it represented the highest character of an investment stock.

It was not particularly attractive as a speculation because the fluctuations in its price were not heavy.

Should the road pass completely under the Harriman domination the suggestion has been made that it might be leased to the Union Pacific. That road could guarantee 7% dividends. It is probable that even a guarantee of 8% would not be regarded as excessive for so valuable a property.

The Illinois Central has been in some sense the protege of the state from which it derives its name, and it is probable that neither the people of that state nor the great body of shareholders would regard a lease with favor. Probably, therefore, all that Harriman control would mean would be much closer working relations with the Union Pacific and the Southern Pacific, and the introduction of Harriman methods into its management.

At $140 per share the yield is just 5%, with a high degree of security for a railway stock. With the great advantages of its watergrade line to the Gulf, and its wide ramifications, its earnings will almost inevitably steadily increase and should no serious depression ensue the stock should steadily increase in value.

Higher dividends than 7% do not excite the same enthusiasm among shippers and patrons as among stockholders, and the stock is more likely to be held at its present dividend than either increased or decreased. It is not likely that at any time any considerable quantity of stock would be thrown upon the market; at any specially attractive price, it would be snapped up by various interests. At anything like about $140 per share, the conservative investor will probably conclude that he is obtaining a very solid stock, with quotations which are more likely to show him a gain than a loss, even though some recession should come from the prosperity of 1906.

INTERNATIONAL AND GREAT NORTHERN RAILROAD.

The International & Great Northern Railroad is a part of the Missouri Pacific system, and is controlled in the interest of that road, but is separately operated. The line extends from Longview on the Texas & Pacific southwesterly through Austin to Laredo on the Mexican border, where it joins the National Railroad of Mexico. Branch lines reach to Houston, Texas.

As of January 1st, 1906, the company had outstanding:

Stock	$9,755,000
Funded Debt	23,390,252
Total	$33,145,252

Average mileage operated—1,160.
Capitalization per mile—$30,298.

For the calendar year of 1906 the road showed:

Gross Earnings	$7,752,108
Net Earnings	1,786,799
Fixed Charges	1,862,797
Deficit for the year	69,556

Maintenance of way amounted to $1,137 and maintenance of equipment to $902, or a total of $2,039. This on a road earning $6,688 per mile, with a traffic density of only about 400,000 ton miles, is very high maintenance, and probably represented an excess for the year of several hundred dollars per mile. The report states that included in expenses were betterments to the amount of $249,555, and this with new steel rail laid in 1906 and other laid in previous years, charged to 1906 income, amounted to $374,006. The total betterments of 1905 amounted to $616,877.

With practically no increase in obligations, the gross earnings of 1906 increased $1,213,170. In other words, it is apparent that the road has been devoting all its surplus earnings to improvements

and thus growing up to what was originally an excessive capitalization.

On the showing of 1906 actual fixed charges and taxes consumed 84 per cent. of the total net income, so that the deficit shown was created by improvements charged to operating expenses. This means that the underlying securities are growing in solidity. The nominal deficit for the previous year amounted to $581,465. Actually, the road earned a slight surplus above its fixed charges.

If the actual surplus of 1906 be taken in the neighborhood of $300,000, this was equivalent to about 3 per cent. on the outstanding capital stock. If no heavy set-back from the tremendous prosperity which Texas has been enjoying should ensue, it is evident that the securities of this road should slowly increase in value. The stock is not quoted on the New York Stock Exchange.

IOWA CENTRAL RAILWAY.

The Iowa Central is to all intents a part of the Minneapolis and St. Louis. Although it operates separately, it has practically the same operating officers, and very nearly the same board of directors, the two notable additions to its directorate over that of the Minneapolis and St. Louis being Paul Morton, president of the Equitable Life Assurance Society, and Theodore P. Shonts, president of the Interborough.

The road is a reorganization in 1888 of the Central Iowa Railroad. Its main line extends from Peoria, Ill., westward to Oskaloosa, Ia., and northward from there to Albert Lea, Minn., where it joins the Minneapolis and St. Louis.

The main business of the road is the haulage of coal and grain from central Iowa eastward and northward. The gross earnings of the road are relatively small, the capitalization is high, and in the two years preceding 1906 the operations showed a deficit even after very moderate maintenance charges.

Capitalization.

Excluding $3,270,000 of first and refunding 4 per cent. bonds, held in the treasury, the capital account of the road on June 30th, 1906, stood as follows:

Common stock	$ 8,524,683
Preferred stock	5,674,771
Total stock	$14,199,454
Funded debt (net)	9,270,294
Loans	1,875,100
Total capital	$25,344,848
Total capital per mile	$45,220
Average miles operated	558
Net earnings on net capital	3.4%
Stock on net capitalization	56%
Fixed charges on total net income	79%
Factor of safety	21%

It will be seen from the above estimate that the capitalization of the road is very heavy compared with its earnings. The average capitalization of the Burlington, the St. Paul and the Northwestern is from $29,000 to $33,000 per mile, with gross earnings between $7,000 and $9,000 per mile. This stands against $45,220 per mile for the Iowa Central, with gross earnings of $5,300 in 1906. The fact of over-capitalization is further accentuated by the showing of net earnings on the net capitalization. The Iowa Central showed 3.4 per cent. as against 9 per cent. and 10 per cent. for the roads above named. It is true that stock represents a considerable part of this watered capital, and that on this stock no dividends are being paid, but, on the other hand, even in the highly prosperous year of 1906, and with no heavy charges for maintenance, the fixed charges consumed very nearly 80 per cent. of the total net income, while, as already stated, in the two preceding years under the same conditions a deficit was shown.

The practical Factor of Safety, therefore, for the underlying securities taken over an average of three years is about zero.

Inasmuch as it is substantitally a part of the Minneapolis and St. Louis lines, it is not probable that its interest payments would be defaulted so long as the latter road was solvent. Reference to the analysis of the Minneapolis shows, however, that the fixed charges of that road are likewise heavy, and even in 1906 consumed more than three-fourths of the Total Net Income.

Earnings and Maintenance.

The present interests operating the road obtained control in 1900. The following table shows the gross earnings, the traffic density (in thousands of tons per mile), the maintenance of way and of equipment per mile, and the total expenditure for maintenance for the six years that have elapsed since:

Year	Gross Earnings	Traffic Density	Maintenance per Mile		Total
			Way	Eqpt.	
1901...........	$4,514	499 (000)	$1,249	$558	$1,807
1902...........	4,558	530 "	976	621	1,597
1903...........	4,311	493 "	930	524	1,454
1904...........	4,260	520 "	504	572	1,076
1905...........	4,638	603 "	735	624	1,359
1906...........	5,304	721 "	726	618	1,344

It will be seen that at the beginning of the new administration the rehabilitation of the line was charged to operating expenses.

The surplus (or deficit) remaining after all charges for the same six years has been as follows:

1900-1	$ 7,048
1901-2	2,915
1902-3	1,643
1903-4	81,132 (deficit)
1904-5	77,074 (deficit)
1905-6	237,442

The surplus shown for 1906 was equivalent to 4.2 per cent. on the preferred stock. Only three dividends have been paid on the preferred since the reorganization in 1888. It was 1 per cent. in 1892, 3 per cent. in 1899, 1½ per cent. in 1900, and none since.

The balance sheet on June 30th, 1906, showed:

Current assets	$574,511
Current liabilities	436,495
Leaving a working balance of	$138,016

The item of cash was $267,294.

Against loans and bills payable of $1,875.000, the company held in its treasury $3,270,000 of its own unsold bonds.

The balance to credit of profit and loss at the close of the year was $2,077,314.

Investment Value.

Iowa Central stocks have shown wide fluctuations, sufficient to show the speculative holder who might have taken hold of them at something like the lower figures, a very handsome profit.

In 1901, the last year of the dividend on the preferred, that stock sold as high as $87 per share, and in 1902, at $90 per share. It was to be had for $30 per share in the following year, and $32 in 1904. It rose to $61 in 1905 and $63 in 1906. It slumped off to $49 in the May decline of that year, and to $30 early in 1907.

Similarly the common, which was buyable for $12 per share in 1900, sold at $51 in 1902, at $16 in 1903, $14 in 1904, $34 in 1906, and $18 early in 1907.

In all this time there was no material change in the real value of this stock. In fact, both the common and the preferred sold at their highest figures in a year when the surplus had been practically wiped out, and it is to be noted at very much higher figures than in 1906, when the first real surplus in six years had been earned. This is one of the many anomalies to be found in price quotations.

The simple fact is that stocks which have intrinsically little or no value are frequently boosted to high prices, more or less by manipulative influences, and they fall back again when this artificial support is withdrawn. This makes investment in such stocks pure speculation.

If, through a generally highly prosperous period the road has been able to earn practically no surplus save in the exceptional year of 1906, there seems little to indicate that the road would prove a dividend payer in the near future. Its earnings per mile from 1900 up to 1905 were practically stationary, while those of almost all the other roads of the country showed a heavy increase. From all this the speculative investor will probably conclude that on any heavy general recession in prices, this is a stock which could be picked up at a low figure, and if stowed away for safe keeping might show a very good profit when better days came to the stock market, and the public was in a mood to invest in Governor Flower's famous "A. O. T."

KANAWHA AND MICHIGAN RAILWAY.

The Kanawha & Michigan is a small coal road extending from the Ohio River into West Virginia and serving as a feeder to the Hocking Valley-Toledo & Ohio Central system. A controlling interest in the property was acquired by the Toledo & Ohio Central in 1890, the latter road being in turn owned by the Hocking Valley. In 1906 it was proposed to merge the Hocking Valley and the Kanawha & Michigan, and under the plan of consolidation the stockholders of the Kanawha & Michigan were to receive stock in the new company to 60 per cent. of their holdings in the old. This consolidation was brought about largely as the result of the demands of the minority shareholders for dividends. A committee representing these interests was appointed in 1905, with George D. Mackay, chairman, to secure a distribution of the considerable net profits from the operations of the company.

For a number of years operating expenses have been very heavily charged for improvements, the appropriations for maintenance of way in 1906 being $1,939 per mile and for equipment $3,007 per mile, on the basis of a freight traffic density of 1,973,883 ton miles, and a very small passenger business.

The excess of maintenance was certainly beyond $2,000 per mile, which on 177 miles of road would have represented an addition of about $350,000 to the nominal surplus of $306,174 shown, or the equivalent of about 7 per cent. on the outsanding $9,000,000 of capital stock. It is obvious from this that a dividend of 3 or 4 per cent. might readily have been paid in 1906.

Under the proposed consolidation the $9,000,000 of Kanawha & Michigan stock is exchanged for $2,750,000 stock in the new company (the minority interest exchanging their stock on a basis of $60 stock in the new company for each $100 share, the controlling interest, representing $4,510,000 par value, held by the Hocking Valley, receiving only a nominal amount, $56,000). On this capitalization the surplus earnings of the Kanawha & Michigan for 1906 represented above 25 per cent. If the Hocking Valley's controlling interest be reckoned along with the other shares, the actual re-

duction of capital would be to a basis of $5,400,000, (i. e., $9,000,000 of stock at $60 per share), on which the Kanawha & Michigan is comfortably earning 12 per cent. Either way, therefore, it will be seen that the consolidation should be highly profitable to the Hocking Valley.

The Hocking Valley has been paying only 3 per cent., so that unless this dividend is increased, the Kanawha & Michigan minority holders will receive only 6-10 of this, or 1.8 per cent., as against 3 or 4 per cent., which at the least might reasonably be declared on the stock. But there is no law to compel a controlling interest to declare dividends if it is indisposed, as was evident in the Southern Pacific case, and the minority shareholders, therefore, probably have the option of accepting the proposed exchange or holding out indefinitely for better terms. Assuming that Hocking Valley is worth around par and will pay satisfactory dividends on this valuation—that is, for a coal road from 5 to 6 per cent., it would seem that the Kanawha stock were worth more than the valuation of $60 per share. Sometimes holding out has been very profitable.

KANSAS CITY SOUTHERN RAILWAY.

The Kansas City Southern is one of the independent roads of the Southwest which has not yet come under control of any large system. It operates an almost air line road from Kansas City to Port Arthur on the gulf, and in 1907 was constructing a branch line to New Orleans. The present company is a reorganization of the Kansas City, Pittsburg & Gulf, whose property was sold under foreclosure in 1900. The line had been built by Arthur E. Stillwell, the builder of the Kansas City, Mexico & Orient Railway.

Control of the new company was vested in a voting trust consisting of John W. Gates of Chicago, E. H. Harriman, Herman Sielcken, George J. Gould, James Stillman, Louis Fitzgerald and Otto H. Kahn, of Kuhn, Loeb & Co. Mr. Harriman was made chairman of the executive committee.

This voting trust expired in 1905, and an entirely new management came into control, headed by Herman Sielcken. The report for 1905 contained an elaborate analysis as to the condition of the road from various experts. It was stated that 25 per cent. of the engines were in bad order and 65 per cent. of the freight equipment unfit for use with freight demanding dry cars (the bulk of the south bound business), and that the road generally was in very bad condition.

During the six months ended June 30th, 1905, there were 715 wrecks on the line, and it was estimated that $7,000,000 would be required to restore the line to proper condition.

The directorate of 1906 included Herman Sielcken, chairman; James A. Blair of Blair and Co., bankers, prominently interested in the Seaboard Air Line; Y. van den Berg of Ladenburg, Thalmann & Co., H. Rieman Duval, also a director in the Seaboard, Atchison, etc.; L. F. Loree, D. G. Boissevain, Walter T. Rosen, Andrew J. Miller, Hugo Blumenthal, William F .Harrity, John J. Mitchell, Adolphus Busch, S. W. Fordyce, J. A. Edson and George M. Craig.

The executive committee of 1906 consisted of L. F. Loree, chairman, formerly president of the Baltimore & Ohio and later

president of the Rock Island; Herman Sielcken, H. Rieman Duval, D. G. Boissevain and Walter T. Rosen.

Capitalization.

As to June 30th, 1906, the capital account stood as follows:

Common stock	$30,000,000
Preferred stock	21,000,000
Total stock	$51,000,000
Funded Debt	30,000,000
Notes	2,382,125
Equipment Notes	1,968,000
Total capital	$85,450,125

Total capital. per mile	$103,204
Average miles operated	827
Net earnings on total capital	1.9%
Stock on total capitalization	60%
Fixed charges on total net income	54%
Factor of safety	46%

It will be seen that for a road with gross earnings of $9,000 per mile, the average capitalization of $103,204 per mile was for the larger part simply water. This average stands against an average of about $30,000 per mile for such standard roads as the Chicago & North Western, the Burlington, the St. Paul, etc.

Even in the extremely prosperous year of 1906, net earnings showed only 1.9 per cent. on the capital as against an average of 9 per cent. and 10 per cent. for the roads just named. Of this large capital, however, 60 per cent. was stock on which no dividends had ever been paid up to 1906 and on which little had ever been earned.

Fixed charges in 1906 consumed 54 per cent. of the total net income, leaving a comfortable margin of safety for the underlying securities. Since the first year of the reorganization the funded debt has increased about eight millions and a half, the stock not at all, and in the meantime gross earnings have risen by nearly 80 per cent. This is an excellent showing, and could it be continued it would amply sustain dividends on the preferred.

The Kansas City Southern owns all the stock of the Port Arthur Canal & Dock Company, the Kansas City, Shreveport & Gulf Terminal Company and the Arkansas Western Railway Company. The

earnings of these are small and the road has no other equities in other companies.

Character and Stability of Traffic.

In 1906 the tonnage of the road was made up of 19 per cent. farm products, 18 per cent. mine products, 45 per cent. forest products, balance miscellaneous. The average rate received is low for a road in this section, amounting to .68 cents in 1906 as against .73 cents in 1905. From the year of the reorganization the earnings have compared as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1899–0	833	$4,118,763	$4,944
1900–1	833	4,753,066	5,705
1901–2	833	5,450,871	6,543
1902–3	839	6,010,458	7,164
1903–4	839	6,450,320	7,688
1904–5	839	6,893,656	8,216
1905–6	827	7,568,332	9,151

Maintenance.

The traffic density of the road has risen rapidly, increasing about 50 per cent. in six years. In the meantime maintenance charges have increased nearly 65 per cent., the items standing as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	685,733	$844	$748	$1,592
1901–2	711,687	839	919	1,758
1902–3	795,912	1,053	1,166	2,219
1903–4	882,913	878	1,227	2,105
1904–5	887,077	967	1,445	2,412
1905–6	1,061,114	1,185	1,431	2,616
Average	837,406	$961	$1,156	$2,117
M. K. & T.	495,226	1,121	616	1,737
St. L & S. F.	448,625	814	703	1,517
St. L. & S. W.	408,066	1,023	674	1,697
Atchison	577,005	1,123	1,113	2,236

A road in the condition described in the report of 1905 was undoubtedly in need of much heavier maintenance than might otherwise have been required on a well-equipped road. From the com-

parison below it will be seen that with an average traffic density of at least 50 per cent. more than that of the Atchison, the average expenditures were about the same in 1906. The average of the Louisville & Nashville, of the same traffic density, was nearly 50 per cent. higher. In 1906 the traffic density and expenditures of several roads compared as follows:

	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
M. K. & T....	460,359	$1,231	$671	$1,902
Missouri Pac..	668,791	857	921	1,778
Rock Island..	514,767	1,011	923	1,934
Atchison......	692,604	1,477	1,271	2,748
Louis. & Nash.	950,304	1,583	1,886	3,469
Kans. City So.	1,061,114	1,185	1,431	2,616

While, therefore, the maintenance of 1906 appears liberal as compared with that of the Missouri Pacific, it is not high as compared with the Missouri, Kansas & Texas and more prosperous roads, and it is, to an extent, deceptive; in fact, a road in better condition could hardly have been maintained on a lower basis.

The traffic density for 1906, including company freight, was actually 1,200,985, this heavy company tonnage being occasioned by the extensive improvements going on. The cost of this company tonnage, the report states, was charged to operating expenses.

The improvements contemplated in the report of 1905 involved the expenditures in 1906 of $1,226,576 for the road and $2,341,779 for additional equipment, or about half of the $7,000,000 estimated as required to put the road in proper condition.

Surplus Earnings.

On the basis of the maintenance charges shown above, the surplus for six years has been as follows:

Year	Surplus	Per cent. Earned on Preferred	Average Price Common
1900–1..........................	$448,866	2.2	19
1901–2..........................	916,335	4.	29
1902–3..........................	652,370	3.2	26
1903–4..........................	853,023	4.2	24
1904–5..........................	735,212	3.6	29
1905–6..........................	933,055	4.6	29

The Balance Sheet.

Including $125,437 investments in marketable securities and $359,514 temporary investments in assets set aside for improvements, the balance sheet as of June 30th, 1906, showed:

Current assets	$1,578,435
Current liabilities	1,468,439
Leaving a working balance of	$109,996

The item of cash was $221,946, and there was in addition a net of cash and materials for improvements on hand of $530,590, not included in the above estimate. The amount to credit of profit and loss was $943,629.

It will be seen that the company was not very well supplied with working capital.

Investment Value.

The preferred stock is limited to non-cumulative dividends of 4% per annum. By reference to the table above it will be seen that in three of the six years under view, this 4% was nominally earned on the preferred. For the first half of the fiscal year of 1907 the company has made heavy gains, indicating a surplus available for dividends of about twice that of the preceding year and a 4% dividend has been declared. The policy of this dividend seems doubtful. The territory covered by the Kansas City Southern has been enjoying a remarkable boom and the road has profited thereby. If this improvement could be maintained it would be ample to sustain dividends on the preferred, but it would be astonishing if this rapid growth should continue. The stock sold as high as $71 per share in 1906, declining to $45 in March of 1907. Were earnings not to fall off it would represent an attractive purchase somewhere between these figures to those who are willing to wait. A limited 4% stock under the high interest rates of 1906-7 would not tend, however, to sell above $75, even under favorable conditions.

After this review it is needless to add that the large amount of common stock is a pure speculation, and that dividends are scarcely likely for some years to come. It belongs to the class of stocks which are run up and down according to the state of the market, selling as high as $37 per share in 1906 and declining to $18 per share in March, 1907, in the face of an astonishing increase in the earnings of the road within the same time. This is one of the vagaries of the stock market, and indicates that it is general con-

ditions rather than values that determine the price of such stocks. Obviously, then, it might sell at very low prices under severe money conditions, and if picked up then and held for a general rise in the market it would undoubtedly represent a handsome profit to the investor. The road is not in the remotest danger of a receivership, even under a heavy recession of business, and the stock should in time represent solid value. Meanwhile, both the common and preferred might readily be sought for the purpose of control by some large company, so that they might tend to sell at higher figures than otherwise.

LAKE ERIE AND WESTERN RAILROAD.

The Lake Erie and Western is another feeder of the Lake Shore, occupying much the same territory and partially paralleling the Big Four. It is a small road, operating 886 miles. The majority of its capital stock, $5,930,000 par value of preferred and an equal amount of the common, is owned by the Lake Shore. The present company was organized in 1887 to take over the property of the Lake Erie & Western *Railway,* sold under foreclosure the year before. The Northern Ohio Railroad is leased for 999 years, but the results from its operation were not included in the income before 1900. The Lake Erie and Western owns the entire capital stock of this road, and guarantees its bonds as to principal and interest.

The control of the road passed to the Vanderbilts in 1899, and the directorate was made up of representatives of the New York Central-Lake Shore, and its executive officers are the same as for the latter.

Capitalization.

The capital account January 1, 1907, stood as follows:

Common stock	$11,840,000
Preferred stock	11,840,000
Total	$23,680,000
Funded debt	10,875,000
Northern Ohio	2,500,000
Total capital	$37,055,000

Total capital. per mile	$41,774
Average miles operated	886
Net earnings on net capital	3.9%
Stock on total capitalization	64%
Fixed charges on total net income	69%
Factor of safety	31%

The stock is obviously rather diluted, since the net earnings show only 3.9% on the estimated net capitalization. This is against an estimate of about 8.8% for the Michigan Central and 12.7% for the Lake Shore. The entire amount of the common stock is pure inflation, since no surplus is earned to provide it with dividends, and even if this amount ($11,840,000) were eliminated the net earnings would still have shown only 5.2% on the capitalization.

In 1906 fixed charges consumed nearly 70% of the total net income, leaving a margin of safety for the underlying debt of only about 30%. On the other hand the stock represents 64% of the estimated net capitalization.

The bonded debt, including $2,500,000 of the Northern Ohio 5% bonds guaranteed by the company, amounts to $15,000 per mile, on a road with a traffic density of between six and seven hundred thousand ton-miles per mile of road.

Neither the capital stock nor the funded debt has increased within the last ten years, save by the assumption of $2,500,000 of the Northern Ohio bonds. Gross earnings have increased about 50%, though part of this is due to the inclusion of the Northern Ohio since 1901. For a series of years the earnings show as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1897	725	$3,326,587	$4,588
1898	725	3,353,162	4,625
1899	725	3,787,301	5,223
1900	725	4,284,780	5,910
1901*	886	4,533,204	5,110
1902	886	4,669,340	5,298
1903	886	5,218,728	5,884
1904	886	4,998,010	5,634
1905	886	5,037,294	5,679
1906	886	5,212,811	5,883

* Includes Northern Ohio Railway.

Maintenance.

The maintenance charges averaged about $400 per mile less than the Grand Rapids & Indiana, for example, with a lower average traffic. In 1906, with a slightly lower traffic, the Lake Erie charges were nearly $1,000 per mile less than the Grand Rapids road. This difference would have been sufficient to wipe out the nominal surplus shown in both 1905 and 1906. It is to be noted further that in 1906, with somewhat increased traffic density, there was a decrease of about $200 per mile in the total maintenance from the average of the three years preceding.

It is improbable, therefore, that the maintenance charges of 1906 represented any concealed earnings.

Besides the regular maintenance charges small sums have been set aside for several years for improvements, namely, $44,657 in 1904, $70,138 in 1905 and $87,092 in 1906.

The maintenance charges have been as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900..........	660,843	$1,113	$575	$1,688
1901*........	568,812	1,064	588	1,652
1902..........	514,897	1,030	599	1,629
1903..........	578,387	974	928	1,902
1904..........	608,677	979	823	1,802
1905..........	622,830	833	986	1,819
1906..........	662,364	739	919	1,658
Average......	602,401	$961	$774	$1,735
G R. & I.....	533,936	1,127	1,041	2,168
Vandalia (2 yr)	887,411	1,290	1,802	3,092

* Includes Northern Ohio Railway.

Surplus Earnings.

From 1900 the surplus earnings have shown as follows:

1900	$716,168
1901	505,196
1902	484,165
1903	489,010
1904	366,489
1905	443,651
1906	450,160

This was equivalent to about 4% on the amount of preferred stock outstanding.

The preferred stock is entitled to 6% non-cumulative dividends. In 1906 the dividend on the preferred was raised to 4%, and in order to pay this, the maintenance charges were somewhat reduced, as noted above.

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current assets	$637,383
Current liabilities	1,961,527
Leaving a debit balance of..............	$1,324,144

The amount of cash on hand was $222,491 and the balance to credit of profit and loss $222,417.

The company was obviously not well provided with working capital. During the year there was charged to profit and loss on account of new equipment purchased, $210,270, and for adjustment of taxes and reduction in value of assets, $131,158.

Investment Value.

The preferred stock, then paying 3%, sold up as high as $138 in 1902. There was nothing in the prospects of the road, nor in the subsequent performances to justify such a price. The control of the road is owned absolutely by the Lake Shore, so that the stock has no other value than as an investment. It sold down to $85 in 1904. In 1906 it reached $92, declining in the spring of 1907 to $55 per share. This was in the face of the fact that the dividend had been increased to 4%. It is obvious, therefore, that increasing the dividend of a stock in an over-capitalized road, when that road is in need of working capital, and that in order to pay this dividend it is needful somewhat to reduce the standard of maintenance of previous years, tends to lower, rather than raise, the price of a stock, even though it be the stock of a Vanderbilt road. Although the preferred is entitled to 6%, it is doubtful, in view of the earnings in the prosperous years of 1900-1906, if any additional dividend, above the 4% can be expected; the circumstances under which the stock was raised from 3 to 4%, have already been fully set forth.

Aside from its value for "control," the Lake Erie & Western common apparently finds its chief utility as a stock market plaything. This stock never has had, and scarcely seems likely to have, any other "value." And yet in the boom years of 1901-2 it was run up on the Stock Exchange to $72 per share. This meant manipulation and nothing more. The stock sold down to $23 in 1903 and in 1906 was lifted to $44. In March, 1907, it sold at $19 per share. There seems little likelihood that this stock will earn a dividend for many years to come. The road earns, with no great ease, the 4% on its preferred, and the preferred is entitled to 6% before the common receives any. Inasmuch, therefore, as the control of the road is owned outright by the Lake Shore, the common stock outstanding has a paper value and little more.

LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY.

The Lake Shore, as it is commonly known, is the chief subsidiary road of the New York Central system, and it is likewise the principal holding company for the New York Central's interests in other lines. Like the Michigan Central, it carries the New York Central's traffic westward from Buffalo to Chicago, operating a total of 1,520 miles, with 840 miles of second, third and fourth track. It has long been a Vanderbilt road, and in 1898 the larger part of its stock was exchanged for New York Central collateral 3½% gold bonds at the rate of $200 per share for the capital stock. At the last report. $45,267,000 out of $50,000,000 of the share capital had been so exchanged, or 90% of the total. The road paid a dividend of 10% in 1906, so that the dividend much more than pays the interest on the bonds.

The directorate of the Lake Shore includes eight of the New York Central's directors, with the Central's president and senior vice-president, W. H. Newman and William C. Brown, and also W. K. Vanderbilt, Jr., and W. Seward Webb. The chief operating officers of the road are the same.

Capitalization.

The stock capital of the Lake Shore has remained unchanged since 1871 and nothing has been charged to equipment and construction accounts since 1883. In 1906 the Lake Shore paid in rentals of leased lines, $1,450,186. Capitalizing this on a 4% basis the capital accounts of the road, January 1st, 1907, stood as follows:

Common stock	$49,466,500
Guaranteed stock (10%)	533,500
Total	$50,000,000
Funded debt	135,000,000
Assumed debt	404,000

Total capital	$185,404,000
Rentals capitalized at 4%	36,254,650
Approximate gross capitalization	$221,658,650
Securities held	101,597,230
Approximate net capitalization	$120,061,420
Approximate net capital per mile	$78,987
Average miles operated	1,520
Net earnings on net capital	12.7%
Stock on net capitalization	41%
Fixed charges on total net income	38%
Factor of safety	62%

Included in the item of "securities held" was real estate not used in operation of the road, valued at $438,661, and advances to lessor and other companies amounting to $8,411,403.

The estimate of $78,987 net capital per mile stands against a similar estimate of $123,188 for the New York Central, $42,796 for the Michigan Central, $69,150 for the Wabash, and $104,311 for the Pittsburg, Cincinnati, Chicago & St. Louis.

Net earnings for 1906 showed 12.7% on the estimated net capital against similar estimates of 5.8% for the New York Central, 11.4% for the Michigan Central, 3.9% for the Wabash, and 6.6% for the Panhandle.

It will be seen that the stock represents 41% on the estimated net capitalization and that fixed charges in 1906 consumed 38% of the total net income, including in the latter item $5,400,000 charged to operating expenses for new construction and new equipment. This stands against a similar estimate of 64% for the New York Central, 38% for the Pennsylvania, 38% for the Lackawanna and 71% for the Wabash. The Factor of Safety on the underlying securities was, therefore, large.

Equities Owned.

The Lake Shore is one of the largest railroad holding companies, owning a controlling interest in the New York, Chicago & St. Louis (Nickel Plate), the Cleveland, Cincinnati, Chicago & St Louis, the Lake Erie & Western, the Chicago, Indiana & Southern, the Pittsburg & Lake Erie, and other small roads. The $30,000,000 of stock in the Reading road owned by the Lake Shore, with an equal amount owned by the Baltimore & Ohio, carries working

control of the Reading ($60,000,000 out of a total of $140,000,000), and the Reading, in turn, has absolute control of the Central of New Jersey. Practical control of the Lehigh Valley is shared with the Reading (owning $1,000,000, par value), the Central of New Jersey (owning $1,600,000, par value), the Lackawanna and the Erie; and the Lake Shore is one of five roads which now control, and under the scheme of reorganization will have absolute control, of the Hocking Valley. The principal items of its holdings stand as follows:

	Par Value.
Chicago, Indiana & Southern, preferred	$ 5,000,000
" " " common	12,000,000
" " " first mortgage bonds	7,000,000
Cleveland, Cincinnati, Chicago & St. Louis	23,148,100
Hocking Valley Railway	1,154,000
Lake Erie & Western, preferred	5,930,000
" " " common	5,940,000
Lehigh Valley Railroad Company	5,700,000
New York, Chicago & St. Louis, 1st preferred	2,500,000
" " " " 2nd preferred	6,275,000
" " " " common	6,240,000
Pittsburgh & Lake Erie Railroad Company	5,000,100
Reading Company, 1st preferred	6,065,000
" " 2nd preferrel	14,265,000
" " common	10,002,500

The total of $132,213,100, par value of stocks and bonds owned, is carried on the books of the company at a cost of $92,747,166. On these investments the company received in 1906 $4,153,505, equivalent to 4.4% on the book valuation.

The Lake Shore's largest single equity was in the Pittsburgh & Lake Erie. In 1906 that extraordinary road earned nominally 25% on its capital stock and actually 75%, if the sums charged to operating expenses for new construction and equipment be added to the nominal surplus. Only 11% dividends were paid in 1906, leaving a nominal equity of 14% on the capital stock, and actually, on the most conservative basis, about 30%. The Lake Shore's equity (one-half) in the road's earnings for the year was therefore nominally $700,000, and, actually, at least two or three times this sum.

The Reading Company earned in 1906 nearly 14% on its common stock and paid 4%. It could easily have paid 6%, which would have yielded the Lake Shore $200,000 additional income.

There were other equities of considerable value in other companies, so that the actual value of the Lake Shore's holdings were

considerably in excess of the amount at which they were carried on the books of the company.

Increase of Capitalization.

In consequence of large purchases of securities in other lines, the Lake Shore, like the Pennsylvania and some other large holding companies, shows the anomalous result of having increased its capital within recent years much more rapidly than its gross earnings. Since 1900 the showing is as follows:

Year	Common Stock	Funded Debt	Total Capital	Gross Earnings
1900..........	$50,000,000	$50,325,000	$100,325,000	$26,466,513
1906..........	50,000,000	135,404,000	185,404,000	42,544,378

Increase over six years: Total capital, 85%; gross earnings, 61%.

In the same period the book value (cost) of the securities owned increased from $26,878,782 to $92,747,166, or an increase in holdings of about $66,000,000. If this be deducted from the $85,-000,000 increase in capital, it will be seen that the actual increase in the capitalization of the road proper was only about 19%, while in the same period the earnings of the road increased 61%.

It is this result on an already highly profitable road which has given such high value to Lake Shore stock.

In 1906, $35,000,000 of the authorized issue of $50,000,000 4% gold bonds were sold, and with this there was purchased $4,395,400 par value of the stock of the C. C. C. & St. Louis, $1,154,000 par value of the Hocking Valley, 16,922 shares of the Merchants Despatch Transportation Company, and $7,000,000 of the bonds of the Chicago, Indiana & Southern Railroad. The company also sold $5,000,000 par value of stock of the Illinois, Indiana & Iowa Railroad, acquiring in its stead stock of the newly organized Chicago, Indiana & Southern.

Stability and Character of Earnings.

Nearly three-quarters of the Lake Shore earnings are from freight, passenger earnings contributing a little over 20%. Of the 33,000,000 tons of freight moved in 1906, mine products contributed nearly one-half, ore and bituminous coals being the largest items. The balance was distributed over a wide variety of traffic.

The solid and steady growth in the road's earning's are revealed in the following table:

Year	Miles Operated	Gross Earnings	Per Mile
1896	1,440	$20,193,958	$14,021
1897	1,437	20,297,722	14,128
1898	1,413	20,753,683	14,715
1899	1,413	23,013,946	16,707
1900	1,411	26,466,514	18,757
1901	1,411	29,272,675	20,746
1902	1,411	30,449,292	21,577
1903	1,430	34,768,082	24,307
1904	1,453	35,161,053	24,198
1905	1,520	38,600,809	25,395
1906	1,520	42,544,378	27,989

The Lake Shore's average freight earnings of .52c. per ton mile in 1906 were rather low, but the average load per train mile was high —624 tons of revenue freight—so that the earnings per train mile amounted to $3.25.

Maintenance.

For years the Lake Shore's operating expenses have been heavily charged for improvements, but this fact has been especially notable from 1903, as the following table discloses:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900	2,566,144	$2,197	$2,874	$5,071
1901	2,839,506	2,404	4,184	6,588
1902	2,872,786	4,256	2,913	7,169
1903	3,224,272	5,515	3,688	9,203
1904	3,160,358	4,172	4,898	9,070
1905	3,355,209	5,337	5,464	10,801
1906	3,698,357	6,278	4,634	10,912
Average	3,102,376	$4,308	$4,093	$8,401
Panhandle	2,193,454	2,567	3,680	6,247
Penn. Co.	3,246,341	3,314	4,139	7,453
Erie	2,434,819	1,861	3,216	5,077

Miles of extra track. 840.

The amounts given above are the total expenditures for maintenance and improvements. Beginning with 1905 the improvement items were separately entered, and for a basis of comparison with other roads which charge off expenditures separately, the expenditures for bare maintenance are given below for two years:

	Traffic Density	Way	Equipment	Total
1905	3,355,209	$2,875	$3,253	$6,128
1906	3,698,357	3,501	3,844	7,345

Improvements from Earnings.

Included in the sums devoted to maintenance, from which the mileage average in the first table has been made up, were the following sums charged to operating expenses for new construction and new equipment:

1900	$3,071,999
1901	4,186,143
1902	4,192,461
1903	6,315,276
1904	5,557,236
1905	6,720,793
1906	5,423,722
	$35,467,630

This is an average of $23,333 per mile for the road as operated in 1906 and stands against similar appropriations, for example, of $17,217 per mile for the Pennsylvania for eight years, and $42,885 per mile for the Lackawanna for six years.

Surplus Earnings.

In the following table the surplus shown is after charging out the improvements noted in the table above; that is, the items show the nominal surplus given in the reports. The items compare as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900	$6,658,431	13.3	8	218
1901	7,155,125	14.2	8	272
1902	6,735,523	13.4	8	333
1903	4,471,032	8.9	8	293
1904	4,457,741	8.9	8	267
1905	4,467,964	8.9	8	319
1906	6,486,612	12.9	10	317

It will be seen that as a result of heavy charges for improvements the surplus after 1901 showed a decrease in the face of a large increase in earnings. The actual surplus obtained by adding in the amount shown in the table above and the amounts expended for improvements for four years have been as follows:

1903	$10,786,308
1904	10,015,975
1905	11,571,756
1906	11,909,354

Thus it will be seen that while the nominal surplus for 1906 showed only 12.9% on the capital stock, the actual surplus earnings of the road were around 23.8%.

Dividend Payments.

The following table shows the dividend payments over a series of years:

	%
1871-2	8
1873	4
1874	3¼
1875	2
1876	3¼
1877	2
1878	4
1879	6½
1880-3	8
1884	7
1885-6	—
1887-8	4
1889-90	5
1891-2	6½
1893-7	6
1898	6½
1899-03	7
1904-5	8
1906	10

In December, 1906, the stock was put on a 12% basis.

The Balance Sheet.

As of June 30th, 1906, the balance sheet showed:

Current assets of	$18,223,457
Current liabilities of	11,342,528
Leaving a working balance of	$ 6,880,929

The item of cash on hand was $4,938,938, and the balance to credit of profit and loss was $17,298,529.

Investment Value.

Only a very small amount of Lake Shore stock is outstanding and sales are rare. In 1906 only two quotations are shown, for $300 and $335 per share. On a 12% basis, at the latter figure the stock yields 3.5% flat. If the total surplus for 1906 were divided equally between improvements and dividends, somewhat after the Pennsylvania fashion, this would have left 11% for the stock, so that at the quotations given above, the stock does not represent anything very attractive to the investor, for while the Lake Shore is undoubtedly a magnificent property, its solidity for the investor is discounted by the value put upon its stock.

LEHIGH VALLEY RAILROAD.

The Lehigh Valley is one of the big "coalers," like the Reading and the Lackawanna, owning vast fields of anthracite coal, and whose chief business is getting this coal to market.

About 85% of its coal traffic originates from properties owned or controlled by the company itself. It operates a double track line of railroad from New York through the anthracite coal fields of Pennsylvania, to Buffalo, with numerous branches.

The Lehigh Valley was organized as a Pennsylvania company as far back as 1847. Its main line was completed in 1855. The Easton & Amboy Railroad, in New Jersey, now operated as a part of the main line, was opened in 1875.

In 1892 the Lehigh Valley was leased to the Reading for 999 years. This lease was broken the following year. The depression of 1893-7 was severely felt by the Lehigh, with the result of the entire suspension of its dividends for nine years from 1894. In 1897 a general readjustment of its finances was arranged by J. P. Morgan & Co., though the line did not pass into the hands of a receiver, and its capital stock remained unchanged.

The company owns outright, or through ownership of the entire capital stock, 1,210 miles, and has leases and trackage rights which bring up the total average mileage operated to 1, 429 miles.

The road has 577 miles of second track, and 40 miles of third track, which means that 40% of the mileage is double track. This includes the entire line from New York to Buffalo.

Ownership.

Between 1899 and 1901 J. P. Morgan & Co. purchased the holdings of the Asa Packer estate, amounting to 150,000 shares, equivalent to $7,500,000 par value of the stock. This purchase, with other acquisitions, gives practical control of the road, and this control was in 1901 partitioned between the Lake Shore, the Erie, the Reading, and the Central of New Jersey.

The 1906 report of the Lake Shore shows holdings of $5,700,-000 par value in the Lehigh Valley road, $3,200,000 of this having

been purchased at $30 per share in the transfer of 1901. At the last reports, the Reading Company owned $1,000,000 par value of Lehigh Valley stock, and the Central of New Jersey $1,600,000. The amount of stock held by competing roads constitutes practical working control, since the stock is rather widely distributed, like the Pennsylvania's, though in lesser degree.

In 1905 the road reported 5,775 shareholders, a large figure for so small a stock interest.

The majority of the directorate is made up of representatives of the New York Central, Erie, and Reading roads. These include H. McK. Twombly and George F. Baker, representing the New York Central-Lake Shore; George F. Baer, president of the Reading and the Central of New Jersey, and Edward T. Stotesbury, a director of and representing the Reading; Charles Steele, representing the Morgan interests, also a director of the Erie, Reading, Hocking Valley and other roads. The other directors are Irving A. Stearns, New York, president of Coxe Bros. & Co. Coal Company, and of the Delaware, Susquehanna & Schuylkill Railroad, up to their absorption by the Lehigh in 1905; Joseph Wharton, New York, president of the Rossie Iron Company; Edward B. Smith, New York, director of the American Gas Company and other enterprises; Robert C. Lippincott, George H. McFadden, Abraham Nesbitt and Simon P. Wolverton. E. B. Thomas, former president of the Erie. is the president.

Capitalization.

On June 30th, 1906, the capital account stood as follows:

Common stock	$ 40,334,800
Preferred stock (10%)	106,300
Total stock	$ 40,441,100
Net funded debt (including leased lines)	124,213,300
Total capital	$ 164,654,400
Securities held	80,481,775
Approximate net capital	$84,172,625
Approximate net capital. per mile	$58,896
Average miles operated	1,429
Net earnings on net capitalization	14.7%
Stock on net capitalization	49%
Fixed charges on total net income	46%
Factor of safety	54%

The Lehigh reports itemize the indebtedness of leased and underlying roads, so that it has been possible to state the capitalization of the road without recourse to estimates. It will be seen that the underlying securities added $45,000,000 to the ordinary bonded indebtedness of the road. From the combined sum, $2,000,-000 of bonds held by the company have been deducted. Against this indebtedness the Lehigh Valley holds in its treasury securities to about $80,000,000.

Company of New Jersey, $7,927,000 more, bringing the total up to over $80,000,000.

When this is deducted from the gross capitalization, the net capitalization amounts to only $58,896 per mile. This for a double track road of the character and resources of the Lehigh Valley is extraordinary low. It compares with estimates of $132,789 for the Lackawanna, about $145,000 for the Pennsylvania, and with $161,-742 for the Reading.

That this is no legerdemain of bookkeeping is evidenced by the percentage which the net earnings show on this estimate of net capitalization, amounting to 15.5%. This compares with 13.7% for the Lackawanna, 8.1% for the Pennsylvania, and 10.8% for the Reading. It exceeds even the high figure of the Lake Shore, which was 12.7%.

Equities Owned.

The total book value of the securities owned by the Lehigh amounts to $72,554,775, and if we add in the 79,270 shares of the Coxe Brothers & Co., Incorporated, owned by the subsidiary Lehigh Valley Railroad of New Jersey, and carried on the books of that company at $100 per $50 share, the total amounts to $80,481,775.

By far the larger part of these securities, however, yield the company no interest. The chief items in this regard are stock in the Lehigh Valley Company of New York, at par value, $11,200,000, and of the Lehigh Valley Company of New Jersey, $20,433,000, together with the stocks of the various water lines included in the Lehigh Valley system, and carried on the books at a valuation of $28,834,228. The items for other companies are small.

Besides this there are bonds of these subsidiary companies of a value of $5,572,926.

The stocks of allied coal companies are carried on the books at $19,008,211. The larger part of these is represented by the purchase of the Coxe Brothers & Co. Coal Company properties, for the purchase of which $19,000,000 of collateral trust bonds were

issued. The report states that "such of the net current assets of the companies purchased as were not required in the conduct of the business have been liquidated, and credited on the books as a reserve for the depreciation of those properties." On the balance sheet this item of reserve amounts to $2,209,360.

The Coxe Brothers property was taken over late in 1905, and presumably because a full year of their operation had not been completed no statement as to results from this company is given, beyond the remark that "the net results to your company from the operation of these properties since the date acquired, notwithstanding the suspension of mining for practically two months, have been sufficient to pay the interest on the bonds issued for the purchase thereof, and provide a substantial amount which may be applied to the retirement of the same."

The requirements for this latter item amount to one million dollars a year, but the report does not state as to whether this full amount had been earned. If it can be, the result of this sinking fund will be to give the properties over to the company free of charge at the end of nineteen years or perhaps less.

No returns from this source are included in the income from investments, and the actual income from investments amounted for the year to a little over half a million dollars. This was exclusive of the $318,489 of net income from the operations of the Lehigh Valley Coal Company.

The company owns the entire amount of outstanding stock of the Coal Company, and the net income from this source for several years ranged between $600,000 and $800,000. The reduction in the net income for the year of 1906 was due in part to the strike. Over and above the surplus reported in 1906 the coal company set aside from its net income, $250,000 to the improvement fund.

Coal Holdings.

At the latest estimates the entire coal holdings of the Lehigh Valley Railroad are set down at 22,720 acres, containing an estimated amount of unmined coal of 400,000,000 tons. Inasmuch as the anthracite coal fields are extremely limited, this is obviously of enormous value, but it would be quite impossible to give these coal fields a cash valuation for selling purposes. If this coal could be mined at a net profit of thirty cents a ton, such as the reports of the Reading or the Delaware & Hudson Company show, a cash valuation at 10c. per ton would hardly be excessive. At this figure the Lehigh's holdings would represent a matter of $40,000,000, or

sufficient to wipe out one-third of the funded debt of the company.

The actual amount of income to the railroad averaged through several years about $700,000 per annum. If the surplus from the Coxe Brothers' property were sufficient to meet the sinking fund payments on the collateral trust bonds, this amount might legitimately be added to the estimated net revenue of the railroad. The reports of the company for 1907 will make clear the total revenue that may be expected from the Lehigh's present holdings.

But it is obvious that the direct income from the railroad propties represents only part of the profit of these holdings to the road. The freight earnings from coal traffic alone amounted in 1905-6 to over $13,000,000 per year, or more than 40% of the gross earnings of the company, and as already stated, 85% of this traffic came from properties owned or controlled by the railroad.

Increase of Capitalization.

In six years the increase of capitalization shows as follows:

Year	Stock	Funded Debt	Total	Gross Earnings
1899–00............	$40,441,100	$102,473,000	$142,914,100	$23,049,282
1905–6.............	40,441,100	124,213,300	164,654,400	32,789,856

Increase over six years: Nominal capital, 15%; gross earnings, 42%.

In the above estimates, the bonds of the Lehigh Valley Coal Company have been excluded, since through the sinking fund operations, these bonds will ultimately be extinguished. The item of funded debt does include, however, the company's bonds held in its own treasury, in both instances. It will be seen that the increase in gross earnings was largely in excess of the increase in the nominal capital.

Character of Traffic.

Of the Lehigh's gross income, amounting to nearly thirty-three million dollars, less than four millions, or only about 12%, is derived from passenger earnings. The baance comes from its freight traffic, in the main, and in this traffic coal and coke represent an even half. Apparently, the rates for coal and other traffic are about the same, for the gross earnings from the two sources are nearly equal.

The company does not further itemize its merchandise traffic. In the following tabulation it is shown that the growth in coal

traffic has slightly exceeded the growth of merchandise traffic, while the passenger business has remained at a standstill.

Year	Total Freight Tons	Coal Tons	Merchandise Tons	Number Passengers
1906.........	25,568,251	12,753,053	12,815,198	4,989,989
1905.........	23,774,287	12,518,369	11,255,918	4,535,232
1904.........	21,909,097	11,694,151	10,214,946	4,199,490
1903.........	19,920,132	9,424,218	10,495,914	4,148,477
1902.........	18,174,886	8,923,446	9,251,440	4,308,497
1901.........	18,511,063	9,679,564	8,831,499	4,756,732
1900.........	17,430,470	8,875,220	8,555,250	4,717,849
1899.........	17,663,010	9,195,964	8,467,046	4,604,932

Stability of Earnings.

Through ten years the earnings of the road have very heavily increased, the average earnings per mile having risen from $14,297 in 1896-7 to $22,946 in 1905-6, an increase of 60%.

The items were as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7............	1,368	$19,559,167	$14,297
1897–8............	1,394	19,742,538	14,162
1898–9............	1,396	21,570,502	15,451
1899–0............	1,381	23,049,282	16,690
1900–1............	1,400	26,683,534	19,059,
1901–2............	1,387	24,272,252	17,500
1902–3............	1,392	26,654,503	19,149
1903–4............	1,392	29,881,738	21,467
1904–5............	1,394	31,275,843	22,436
1905–6............	1,429	32,789,856	22,946

This large increase has considerably exceeded the actual increase of business, or tonnage, and is due in large part to the increase of rates which followed the introduction of the community of interest scheme. Thus, in 1899 the average freight rate per ton mile was .52 cents and in 1906 .62 cents, an increase of a full mill per mile, or about 20%. On the total traffic of the Lehigh for 1906, this would have represented a difference of $4,342,000, or more than half the surplus shown. It will be seen, therefore, that, like other roads which have similarly benefited, the Lehigh Valley is very keenly interested in the maintenance of the present arrangements.

Maintenance.

For years the operating expenses of the Lehigh Valley have been very heavily charged for the improvement of the road. This was especially true from 1900 to 1903. It will be seen from the table that in 1902 the maintenance charges amounted to $7,000 per mile.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1901–2.......	2,464,949	$3,340	$3,713	$7,053
1902–3.......	2,609,541	2,880	3,374	6,254
1903–4.......	2,797,865	2,197	3,408	5,605
1904–5.......	2,948,115	2,345	3,511	5,856
1905–6.......	3,038,762	2,206	3,838	6,044
Average	2,771,846	$2,588	$3,429	$6,017
N. Y. C.......	2,070,251	$2,722	$3,033	$5,755
Lackawanna..	3,079,629	4,754	3,579	8,333
Erie..........	2,434,819	1,861	3,216	5,077

The reduction which the table shows from the level of 1902 is only apparent, since in the following year a change was made in the method of bookkeeping, whereby a separate charge was made from net income for extraordinary expenditures. The amounts which were set aside in the four succeeding years are as follows:

1902-3	$1,266,182
1903-4	1,465,290
1904-5	1,411,551
1905-6	1,570,227
Total	$5,713,250

The charges for equipment for 1906 amounted to $3,000 per locomotive, $695 per passenger car, and $61 per freight car. These are very heavy charges, and probably amounted to an excess of one million dollars over what might have been necessary had the road, through adverse circumstances, been compelled to run on an economical basis. In estimating the earning power of the road, this sum might be added to the amount set aside for improvements.

Surplus Earnings.

Owing to the heavy charges for improvements, the Lehigh Valley showed a large deficit in 1900 and again in 1902. The abrupt change from the latter year to 1903 was due in part to the change in bookkeeping methods, for the apparent surplus shown includes the $1,266,182 set aside for special improvements, as do also the amounts for subsequent years. For the rest, the change from a deficit to a large surplus is due in part to the reduction in the maintenance charges, and in part to the increased economies in operation brought about by the heavy improvements of the preceding years. The following shows the separate items:

Year	Surplus	Dividends on Preferred 10%	Per cent. Earned on Common	Dividends Paid on Common	Average Price ($50 share)
1899–0....	*$2,077,796	—	...	—	26
1900–1....	574,612	..	1.3	—	34
1901–2....	* 1,332,776	..	...	—	34
1902–3....	3,273,689	..	8.	—	40
1903–4....	6,577,287	..	11.3	1	46
1904–5....	7,439,987	10	18.4	4	71
1905–6....	7,340,299	10	18.3	4	75

*Deficit.

Even if the $1,570,000 devoted to improvements in 1906 were deducted from the surplus shown in the table, the road would still have earned nearly 15% on its capital stock. If, on the other hand, the surplus were estimated on the same basis as that adopted by many less prosperous lines, the actual earnings could be shown to be far in excess of this. There was, for example, the item of $250,000 set aside from the coal companies' surplus for improvements, and if we estimate the excess of maintenance at one million dollars, and the possible surplus earnings from the operation of the Coxe Brothers properties at another million dollars (and include the appropriations for improvements on the railroad), this would bring up the surplus earnings to above nine and a half million dollars. This would represent more than 23% earned on the capital stock. This is a fine showing, and while a full half of it is due to improvement in freight rates over the low levels of 1899, it reveals the exceeding prosperity of the company.

Dividend Record.

For a long period anterior to the dull years of 1893-7, high dividends were paid. They declined gradually from 10% in 1871-5 to 4% in 1893. Thereafter no dividends were paid on the common stock for eleven years, and even the dividend on the small amount of preferred was suspended. The full record is as follows:

	%
1871-5	10
1876	9
1877	5½
1878-80	4
1881	5½
1882	6½
1883-4	8
1885	6
1886	4

1887	4½
1888-91	5
1892	5¼
1893	4
1894-03	none
1904	1
1905	4
1906	4% and 1% extra
1907	4% and 2% extra

Balance Sheet.

At the close of the fiscal year of 1906, the books of the company showed current assets to the amount of.........$17,700,701
and current liabilities......................... 4,697,944

leaving a working balance of..................$13,002,757

Of the items of current assets, cash amounted to $11,676,966, showing that the company was in ample funds, and had at the time a handsome working balance.

The amount to the credit of profit and loss was $11,380,815.

This, however, was the amount before the payment of the semi-annual dividend ($812,000), due a few days after.

Investment Value.

The Lehigh Valley was one of the roads which suffered severely through the freight wars which played so large a part in railroad operations in former years, and in the long depression of 1893-7 its stock went down to a low figure. As with the Pennsylvania and the Reading, its stock is in $50 shares, and in 1897 it could have been bought for as low as $20 per share, and even as late as 1900 for $22 per share. From this low point the stock rose steadily, corresponding with improved conditions of the road's finances, to $39 per share in 1901 and to $45 per share at the beginning of 1903. In the decline that followed, the stock went down only to $35 in 1904, and had risen to $60 in the same year. In 1905 it sold up to $90 a share, and in 1906 to $86. This was equivalent on the New York basis to quotations respectively of 180 and 172. In the general decline of March, 1907, it fell to 115.

These quotations are those of the Philadelphia exchange, where the stock is actively dealt in.

The 1906 prices for a 4% stock were extremely high and obvi-

ously based not upon dividend payments, but upon the high earnings of the road. The amount of common stock is only $40,000,000, so that its 4% dividend calls for only $1,600,000. This on a net surplus over and above appropriations for improvements of $5,770,000, leaves a wide margin for a largely increased dividend. It is obvious, for example, that on the basis of the surplus shown, in 1906, and that of the two preceding years, its 4% disbursement might readily have been doubled.

At the average price of 150 ($75 per share), shown for the calendar year of 1905, the stock yielded only 2.6% on the investment. At the lowest price of 1906 ($65) it yielded 3%. That the dividend will be increased either by continued extra dividends or regularly, is practically assured. But if the conservative policy of the road be maintained, it is scarcely likely that this increase will bring the dividend above 6 or 7%, though as already indicated, 8% would be easily justified. With the immense coal holdings of the company, its excellent management, and its highly prosperous condition, on a 7% basis, the stock might sell again at the high figure of 1905; that is, above $90 per $50 share. On this basis a 7% dividend would yield nearly 4% to the investor, with every prospect of a still further increase in the dividend, and a corresponding increase in price, should business conditions meet with no heavy setback.

It is evident from the high prices which the stock has shown that these anticipations have been pretty fully discounted. At the high figures of 1905-6 the stock had small speculative attractions. Even at $65 per share the price is clearly a speculation on the future dividend policy of the company. The surplus shown in the last two or three years under view show, however, that such a speculation was as safe a probability as a speculation well could be. Purchased at anything like these figures the stock would undoubtedly yield a handsome return in increased price, if put away in the investor's strong box.

A purchase at higher than these figures would be either a pure gamble, or based upon that foreknowledge of directors' intentions which is so dubious an element in stock manipulation.

LONG ISLAND RAILROAD.

The Long Island Railroad comprises a network of lines which cover Long Island, and the road enjoys a monopoly of its territory like that of no other railroad in the east, and comparable only to some of the lines in the sparsely settled territory of the west. It has practically no competitor, save the Brooklyn Rapid Transit, with which it has a fifty-year traffic agreement. Since 1900 it has been a part of the Pennsylvania system, and with the completion of the East River tunnels, will be a connecting link in a close traffic arrangement between the Pennsylvania and the New Haven Railroad.

The line is an old one, having been chartered in 1834, and opened in 1844, from Jamaica to Greenport. Other lines have been added by consolidation and otherwise, so that in 1906 it operated 392 miles of main track. It also operates an extensive ferry service between Manhattan and Long Island.

Aside from the Pennsylvania tunnels on Thirty-fourth street, the extension of the Interborough subway will connect with the road at Flatbush avenue and the Belmont tunnel now under construction from Forty-second street. These tunnels, when completed, will undoubtedly cause a heavy increase in the business of the road.

Ownership.

In May, 1900, the Pennsylvania Company purchased $6,797,000 par value of the $12,000,000 stock of the road, and since that time the road has been operated under Pennsylvania auspices. Aside from Pennsylvania representatives the directorate of 1906 included August Belmont, banker; Dumont Clarke, president of the American Exchange National Bank; W. G. Oakman, former president of the Guaranty Trust Company; C. M. Pratt, secretary of the Standard Oil Company, Franklin B. Lord, and the president, Ralph Peters.

In 1898 a contract was entered into with the Brooklyn Elevated Railway, now controlled by the Brooklyn Rapid Transit, for a connection between the two systems. The Long Island Road also controls the Prospect Park & Coney Island road, now leased to a subsidiary company of the Brooklyn Rapid Transit, and it also

controls the Montauk Steamboat Company, which operates a line of boats between New York City and North Shore Point. It owns also a number of trolley lines on the island.

Capitalization.

The capital account, on January 1st, 1907, stood as follows:

Capital stock	$12,000,000
Funded debt	44,079,790
Leasehold estates	3,888,000
Total capital	$59,967,790
Rentals capitalized at 4%	10,448,775
Approximate gross capitalization	$70,416,560
Securities held	11,818,301
Approximate net capitalization	$58,598,264
Approximate net capital per mile	$149,317
Average miles operated	392
Net earnings on net capital	3.5%
Stock on net capitalization	20%
Fixed charges on total net income	101%

As shown above, the capital account does not include the amount of the equipment trust outstanding, which was not given in the report of 1906. Through this equipment trust there was added during the year 2 ferry boats, 2 car floats, 25 locomotives, 100 box cars and 34 gondola cars, or roughly about $500,000 of new equipment.

It will be seen that the capitalization per mile is very high; even the bonded debt of the road is above $120,000 per mile. The estimated net capitalization of $149,317 per mile, with earnings of $24,488 per mile, stands against $103,741 per mile for the New Haven, and is higher than that of the New York Central. This load of debt is a heritage from the old Austin Corbin regime. The net earnings of 1906 on the estimated net capital represented 3.6%, a rather low figure, but the operating expenses of the road have been systematically surcharged since the advent of the Pennsylvania management, so that the figure has less significance than it might otherwise possess.

The stock represents 20% of the net capitalization, and in 1906 fixed charges consumed slightly more than the total net income.

In other words, the operating expenses were adjusted so as to just about pay the fixed charges.

Increase of Capitalization.

Since the advent of the Pennsylvania management the funded debt of the road has been increased by $21,809,000, equivalent to $55,635 per mile of road operated. In the same period, however, the gross earnings have increased $12,893 per mile. The increase in the nominal capital was equivalent to 58%, while the gross earnings increased 113%. The items compare as follows:

Year	Common Stock	Funded Debt	Total	Gross Earnings
1899–0	$12,000,000	$26,158,702	$38,158,702	$4,557,259
1906	12,000,000	47,967,790	59,967,790	9,595,596

Character of Traffic.

The Long Island road is exceptional from the fact that its earnings from passenger traffic were in 1906 more than double its earnings from freight traffic, and passenger earnings contributed about 60% to the gross earnings of the road. Likewise the express traffic was exceptionally heavy, contributing in 1906 nearly 12% of the gross.

Stability of Earnings.

In the ten years preceding the advent of the Pennsylvania management, the earnings of the road were practically stationary, fluctuating around $4,000,000 annually. They have risen steadily in seven and a half years from $11,595 per mile in 1900 to $24,488 in 1906. That is to say, more than double. In the table below the gross for 1905 and for 1906 includes the gross earnings of the river and harbor service, not previously included in gross income and not so shown in the original report of 1905.

Year	Miles Operated	Gross Earnings	Per Mile
1896	383	$3,962,799	$10,347
1897	398	3,954,866	9,936
1898	403	4,333,194	10,752
1899	403	4,622,475	11,470
1900	393	4,557,259	11,595
1900–1	380	4,862 347	12,795
1901–2	395	5,883,607	14,858
1902–3	391	6,440,992	16,473
1904	391	7,083,807	18,117
1905	391	8,501,466*	21,687*
1906	392	9,595,596*	24,488*

* Includes River & Harbor Co. earnings.

The increase of freight mileage in 1906 was small, amounting to only 5%, while the increase in passenger mileage was 22%.

Maintenance.

With the Pennsylvania's purchase of the control of the road, it immediately began a broad system of improvements which have included heavy charges to maintenance account. As will be seen from the table below, maintenance of way per mile of operated road has increased from $1,624 to $2,694, or $1,070 per mile, equivalent to above 60%.

Maintenance of equipment has increased from $1,229 to $2,995, or $1,766, equivalent to 144%. In the meantime freight traffic density increased about 67% and the passenger traffic density 62%. These items compare as follows:

Year	Traffic Density		Maintenance per Mile		Total
	Freight	Passenger	Way	Equipment	
1900–1......	111,287	523,141	$1,624	$1,229	$2,853
1901–2......	128,434	607,787	1,795	1,351	3,146
1902–3......	142,101	644,851	1,882	1,515	3,397
1903–4......	145,708	675,771	2,197	3,408	5,605
1904........	149,857	698,986	2,013	1,819	3,832
1905........	176,820	700,389	2,113	2,594	
1906........	185,774	854,494	2,694	2,995	5,689
Average...	148,568	672,202	$2,045	$2,130	$4,175

These figures indicate a considerable surcharge, but the amount of this surcharge is difficult to estimate, owing to the peculiar character of the traffic and equipment of the road. The locomotive repairs amounted to 8c per engine mile, which compares with 9.4c per engine mile for the Pennsylvania, as a whole. But the locomotive equipment of the Long Island road is, of course, much lighter than that of the Pennsylvania.

The operating ratio for 1906 was 78%—practically the same figure as the preceding year.

If the surcharge amounted to as much as 5%, this would be equivalent to $480,000, which would represent nearly $1,200 per mile of excess maintenance, and this would be equivalent to nearly 4% on the outstanding capital stock.

The road is, however, in a transition period and obviously preparing for a heavy increase of traffic as soon as the tunnels under the East River are completed and the Long Island has through rail connections with the Pennsylvania.

Surplus Earnings.

Under these heavy charges for maintenance the surplus has shown as follows since 1901:

Year	Surplus	Per cent. Earned on Common %	Dividends Paid on Common	Average Price
1900–1..........	$206,164	1.7	None	71
1901–2..........	544,255	4.5		80
1902–3..........	305,588	2.5		76
1903–4..........	(Def.) 275,205			54
1905............	22,529			61
1906............	(Def.) 28,358			

The Long Island has paid no dividends since 1897. From 1883 to 1890 it paid 4% yearly, in 1891 4½%, in 1892-3 5%, in 1894 4½% and in 1895-6 4%.

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current Assets (excluding materials on hand)..	$4,342,087
Current Liabilities..........................	2,530,904
Leaving a working balance of.................	$1,811,183

The item of current assets included about $2,670,000 of advances to other companies, which were scarcely a quick asset.

The item of cash amounted to $365,369 and the profit and loss account showed a debit of $1,747,236, an increase for the year of $208,037.

Investment Value.

For the ten years since 1897 an investment in the Long Island stock would have shown no returns whatever, and it is not improbable that this situation will continue for two or three years longer. Should the tunnels be completed at the close of 1908, the year of 1909 should show a heavy increase of earnings, and under reasonable conditions might yield a fair return on the stock.

The stock is attractive, therefore, only for a long pull. It has varied between a low point of 48 in 1904 to 81 in 1906. In the stock boom of 1901 it was run up to 90, and to 91 in 1902. If it should pay 4% in 1909, it could reasonably be expected to go to par. The return which an investor would receive, therefore, could be measured by the difference betwen this price and what he paid for it, divided by three or four. Should the earnings of the road meet expectations, the dividend in a few years might be even higher, but this is pure speculation. On a speculative investment there are

few who would be satisfied with a return of less than 15% per annum, and supposing, therefore, that the stock should reach par within three years, it might be considered as worth somewhere around 50. Bought at this figure or lower, it should return within three or four years a satisfactory interest to its purchasers. It sold at $52 per share in March of 1907.

LOUISVILLE AND NASHVILLE RAILROAD.

The Louisville & Nashville, although now owned and controlled by the Atlantic Coast Line, is operated separately, and its total mileage owned and controlled is much larger than the Atlantic Coast Line. It is one of the oldest and has long been one of the leading systems of the southern states. In 1906 it directly operated 4,205 miles of road, and controlled through stock ownership or jointly with other roads, 2,366 miles more, which, with the lines operated by its subsidiary companies, brought the total up to 6,842 miles. Its lines form a perfect network southward from Cincinnati and Louisville to Pensacola and New Orleans, covering the rich iron districts about Birmingham, and with branches extending to Memphis and to St. Louis. Jointly with the Southern Railway it owns a large part of the stock of the "Monon" (Cincinnati, Indianapolis & Louisville), and with the Atlantic Coast Line it jointly owns the Georgia Railroad, and its subsidiary, the Atlantic & Western. The road has long been characterized by admirable management, and in spite of considerable difficulties managed to keep its feet through the depression of 1873-7, and again of 1893-7. Since the latter period, it has shown a high degree of prosperity.

History.

The Louisville & Nashville dates from 1850, when a line from Louisville, the "Tobacco capital" of Kentucky, to Nashville, was projected. The line was opened in 1859, and despite the troubles of the war, the company was able to declare its first cash dividend in 1863, and continued to pay excellent returns until 1873. About 1870 it began a policy of extension which in the ensuing crisis brought anxious times to the management. It recovered, however, and by 1880 it became so prosperous that it declared a script dividend of 100%, and even on its doubled capital in 1881, was able to pay 6% dividends. The failure of its president, Mr. Baldwin, in 1884, shook confidence in the road, but it again pulled through, and by 1890 it was directly operating 2,858 miles of road, with an interest in about 2,000 miles more. In 1902 a controlling interest in the

Atlanta, Knoxville & Northern was purchased and in due course this was absorbed into the main system. In the same year, in company with the Southern Railway, it purchased a large interest in the "Monon," which gave to these roads a joint outlet to Chicago. The absorption of a number of small lines has brought up the road to its present mileage. The most important of its subsidiary companies is the Nashville, Chattanooga & St. Louis, operated separately, which controls about 1,270 miles of road. The Louisville & Nashville is also the joint lessee with the Atlantic Coast Line of the Georgia Railroad and its dependencies, operating 571 miles.

Ownership.

The transfer of the control of the system in 1902 was one of the most dramatic incidents in recent railway finance. The road up to that time had been owned largely in England, and in particular the Rothschilds were reputed to be heavily interested. The story as told by Moody's Magazine, a journal of repute, is that the directors of the road had decided upon a new issue of $5,000,000 stock to be offered at par. As no rights accrued from the subscriptions, the effect of the new issue would be, other things being equal, to depress somewhat the market price of the stock, and in anticipation of this probability, a considerable quantity of stock was sold "short." A party headed by John W. Gates, of Chicago, apparently gained information as to this intention and proceeded to take all the stock that was offered. Amid considerable excitement, the stock rose rapidly from a low point of $105 to $146 in the month following. Possibly somewhat to their suprise, the Gates party found themselves in possession of a majority of the stock. They were simply speculators, and had no intention of acquiring the road, and finding the burden somewhat heavy, the controlling interest was offered to and taken by Messrs. J. P. Morgan & Co., but shortly afterwards transferred to the Atlantic Coast Line. The latter road paid therefor $10,000,000 in cash, $35,000,000 in 4% 50-year collateral trust bonds, and $5,000,000 common stock. As, however, the Atlantic Coast Line was shortly afterwards selling at $125 per share, the approximate purchase price paid for the Louisville & Nashville was $51,625,000, which for the $30,600,000 par value shares acquired was an average of $169 per share. This was a difference of about $60 per share over the average price at which the stock had been selling through the preceding year or more, or the equivalent of about $18,000,000, which sum apparently was divided between the sellers of the stock, the Gates' intermediaries, and the final sellers of the stock. The pur-

chase, however, was highly profitable for the Atlantic Coast Line, for the earnings of the road are enormous and more than sufficient to justify the price paid.

A further particular of interest is that the Atlantic Coast Line is in turn controlled by a small holding company known as the Atlantic Coast Line Company of Connecticut, so that the control of the combined Atlantic Coast and Louisville systems, operating and controlling over 11,000 miles of railway, is vested in an organization with a capital of only $10,500,000. (See Atlantic Coast Line).

The 1906 directorate was made up of Henry Walters, chairman of the board, likewise chairman of the board of the Atlantic Coast Line, a director of the Colorado & Southern, Northern Central Railway and other enterprises; Michael Jenkins, of Baltimore, president of the Atlantic Coast Line Company of Connecticut; Alexander Hamilton, first vice-president of the Atlantic Coast Line Railroad; Warren Delano, Jr., of New York, largely interested in coal enterprises, also a director in the Atlantic Coast; August Belmont, of the banking firm, president of the Interborough-Metropolitan, director of the Long Island Railroad, etc.; Walter G. Oakman, former president of the Guaranty Trust Company of New York, now a director in the Interborough, in the Long Island, the Alabama Great Southern, etc.; John I. Waterbury, president of the Manhattan Trust Company of New York, also a director in the International Mercantile Marine, etc.; D. P. Kingsley, president of the New York Life Company; Edward W. Sheldon, of New York, formerly a director and general counsel of the Wisconsin Central; G. M. Lane, Boston; W. G. Raoul, Atlanta; Attilla Cox, Louisville, and Milton H. Smith, Louisville, president of the road.

The affiliations of the Louisville & Nashville are naturally those of the Atlantic Coast Line, and through joint ownership of the Monon it is also associated with the Southern Railway, its chief competitor.

Management.

As already noted the chairman of the board, Mr. Walters, is also chairman of the Atlantic Coast board. He is the son of William T. Walters, who is largely responsible for the upbuilding of the Atlantic Coast Line to its present strong financial position.

Doubtless in consequence of the purchase of the controlling interest by the Atlantic Coast, the number of shareholders is small, the road reporting only 1,672 in 1904, as against 9,572 for the Southern in the same year.

Capitalization.

Deducting from its funded debt its own bond issues held in its treasury, or by trusts, to the par value of $45,639,000, the capital account of the road on June 30th, 1906, stood as follows:

Common stock	$ 60,000,000
Funded debt	129,153,500
Subsidiary companies (net)	4,938,150
Total capital	$194,091,650
Securities held	30,160,043
Approximate net capital	$163,931,607
Approximate net capital. per mile	$39,684
Average miles operated	4,131
Net earnings on net capitalization	8.9%
Stock on net capitalization	36%
Fixed charges on total net income	54%
Factor of safety (see below)	46%

In the above estimate of the net capitalization, no consideration has been taken of rentals paid or received. The amounts received were greater than the amounts paid, and this item would therefore tend slightly to reduce rather than augment the net capitalization of the road.

It will be seen that with gross earnings of $10,400 per mile, the average capitalization of the road is low; its figure of $39,684 comparing with $49,223 per mile for the Southern Railway, with gross earnings of $7,200 per mile, and $47,453 for the Seaboard, with gross earnings of $5,790 per mile.

In 1894 Louisville & Nashville closed its construction account, and since that time has charged large sums annually for improvements to its operating expenses. The amounts so charged are itemized in the reports, and if the $2,586,000 so devoted in 1906 be added to the net earnings of that year, as is the general custom with other roads, the net earnings show 8.9% on the net capitalization. This figure compares with similar estimates of 4.2% for the Southern Railway, 3.7% for the Seaboard and 7.9% for the Illinois Central.

As to the style of capitalization, it will be seen that the larger part is represented by the funded debt, the stock amounting to only 36% of the net capitalization.

In keeping with the high earnings of the road, fixed charges consumed in 1906 only 54% of the total net income shown in the report. This is on the nominal net income, but if as is customary on other roads, the sums devoted from earnings to improvements were included in the income, fixed charges for 1906 represented only 45% of this sum, leaving a Factor of Safety on the underlying securities of a full 55%.

Were the considerable equities accruing to the Louisville & Nashville from its stock ownership of other roads considered, in the estimate of total net income, this factor of safety would rise to a still higher figure.

Equities Owned.

The largest single interest which the Louisville & Nashville has in outside companies is its ownership of $7,176,600 par value of the $10,000,000 of stock of the Nashville, Chattanooga & St. Louis. This road is operated separately, but under practically the same management, and is to all intents a part of the system. It paid in 1905, 5%, but after heavy improvement charges showed a surplus of approximately 9½% on its capital stock. Additions to property and equipment from earnings amounted to $1,289,421, and this was after probably excessive maintenance charges, so that the surplus earned by the road for the year was not less than $2,200,000, and actually considerably in excess of this. The Louisville & Nashville's interest in the undivided surplus in this company for the year was not less than $1,200,000.

As its one-half interest in the Monon, the Louisville & Nashville owns $4,893,450 par value out of a total of $10,500,000 of the common stock, and $1,936,700 par value of the preferred, or a total of $6,830,600. Jointly the two roads own 92½% of the common and 77% of the preferred, paying for the same a total of $11,827,000. On its half of this interest, the Louisville & Nashville received in 1906, $224,571, or just about sufficient to pay the 4% interest on the purchase bonds. On the common stock in 1906, the Monon earned above 9%, which left an equity amounting to about 6%, or in the neighborhood of $300,000.

The Louisville & Nashville likewise has a half interest in the profits of the Georgia Railroad and dependencies, leased jointly with the Atlantic Coast Line, but the amount earned was not considerable.

All told the company received in 1906 from its investments, $814,318, which was equivalent to 2.7% on the book valuation of the securities it owns. The equities in the undistributed surplus of these

outside companies would have been much more than this amount, so that the book valuation is probably under rather than over their actual worth.

Increase of Capitalization.

The increase of capitalization as compared with the gross earnings for a period of six years has been as follows:

Year	Capital Stock	Funded Debt	Total	Gross Earnings
1900.....	$55,000,000	$90,026,660	$145,021,160	$27,742,379
1906.....	60,000,000	129,153,500	189,153,500	43,008,996

Net income over six years: Nominal capital, 30%; gross earnings, 55%.

Of the $45,000,000 of new capital added in the six years, about twenty million dollars has gone into the purchase of securities in outside companies, so that the actual increase of the road has been only a little over 15%. Again in 1900, the company included in its gross earnings its own company freight, which was not done in the following years, so that the actual increase in gross earnings was slightly larger than that shows, or around 60%. This heavy increase in earnings on a comparatively slight capital increase is due to the policy of the road in turning back a large proportion of its surplus earnings into improvements.

Character of Traffic.

The Louisville & Nashville is one of the roads which do not itemize their traffic tonnage. Passenger traffic contributed less than 20% of the gross earnings of the road. Cotton is obviously a large factor, and another is the mineral industries of Northern Alabama. Taken as a whole the company's business is widely distributed, and its earnings are not dependent upon any particular product.

Stability of Earnings.

Since 1896, the gross and mileage earnings have shown as follows:

Year	Miles Operated	Gross Earnings	Earnings Per Mile
1895–6........	2,965	$20,390,711	$6,877
1896–7........	2,981	20,372,308	6,834
1897–8........	2,988	21,996,653	7,361
1898–9........	2,988	23,759,485	7,951
1899–0........	3,007	27,742,379	9,224
1900–1........	3,169	28,022,206	8,841
1901–2........	3,327	30,712,257	9,232
1902–3........	3,439	35,449,378	10,308
1903–4........	3,618	36,943,793	10,211
1904–5........	3,826	38,517,071	10,066
1905–6........	4,131	43,008,996	10,411

In the years against which an asterisk stands, the company included its company freight in the total of gross, these amounting in 1901, for example, to about $1,200,000. The actual increase for the eleven years shown was somewhat greater than the table represents. Even as it was, it will be seen that the gross earnings more than doubled, and the mileage earnings actually increased more than 50%.

It will be seen that with the exception of the two years from 1900 to 1901, the increase in the mileage earnings has been steady, and without interruption, though these earnings were practically stationary for the four latter years.

Maintenance.

It has already been noted that large sums have been annually charged to operating expenses for improvements, the amount in 1906 being $2,586,000. It follows naturally from this that the maintenance charges have been heavy. For six years they compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	838,114	$1,374	$1,260	$2,634
1901–2.......	923,505	1,363	1,324	2,687
1902–3.......	992,853	1,554	1,547	3,101
1903–4.......	956,427	1,576	1,548	3,124
1904–5.......	916,362	1,490	1,659	3,149
1905–6.......	950,304	1,582	1,886	3,468
Average....	929,594	$1,490	$1,537	$3,027
Ill. Cent......	1,180,351	1,386	1,486	2,872
Southern......	435,987	860	964	1,824
Seaboard.....	311,366	620	611	1,231
Atl. Coast....	257,769	709	556	1,265

The total maintenance in 1906 amounted to $14,328,000. The $2,586,000 charged to expenses for improvements amounted to 18%

of the total. There were very nearly corresponding amounts in the previous years, so that for the purpose of a comparison with other roads, the Louisville & Nashville might be legitimately scaled by one-sixth. This would have reduced the average total maintenance for the six years to about $2,500 per mile.

On this basis it will be seen that the Louisville & Nashville standard of charges was rather below the Illinois Central, traffic density compared. The traffic density of the Southern was less than one-half, and its maintenance charges only about one-third less. The traffic density of the Seaboard was only one-third and its maintenance about half. While therefore the Louisville & Nashville's maintenance charges have been very liberal, the amounts buried in maintenance have hardly been so great as some extravagant estimates have represented. For the purpose of getting at the actual surplus earnings of the road it would probably be safe to do what has been done here, that is, simply to take the amounts charged to improvements annually as shown in the company's reports, and add these to the nominal surplus shown.

These amounts since the closure of the construction account in 1894 compare as follows:

1894-5	$ 279,584
1895-6	617,342
1896-7	546,571
1897-8	659,950
1898-9	517,785
1899-0	1,021,843
1900-1	1,474,503
1901-2	1,487,277
1902-3	2,000,204
1903-4	1,746,184
1904-5	2,562,314
1905-6	2,586,630
Total —	$15,500,187

These amounts may be used for the purpose of comparison with similar charges on other roads usually deducted from the nominal surplus earnings. For example, since 1900 the amount so set aside from earnings on the Southern Railway was $2,830,182.

Surplus Earnings.

The amounts shown in the table below are the nominal surplus earnings shown in the reports of the company, plus the amounts charged to operating expenses annually for improvements as shown in the table above.

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1.........	$5,755,615	10.4	5	87
1901–2.........	6,212,585	10.3	5	111
1902–3.........	8,211,252	13.6	5	109
1903–4.........	8,434,355	14.0	5	117
1904–5.........	9,389,354	15.6	5	146
1905–6.........	8,935,004	14.9	6	147

Dividend Record.

The complete dividend record for 36 years stands as follows:

Year.	Cash %	Stock.
1871-3	7	
1874-6	—	
1877	1½	
1878	3	
1879	4	
1880	8	100
1881	6	
1882	3	
1888-9	—	5
1890	1.1	4.9
1891	5	
1892-3	4	
1894-8	—	
1899	3½	
1900	4	
1901-4	5	
1905-6	6	

The Balance Sheet.

At the close of the fiscal year of 1906 the company showed:

Current assets	$12,712,706
Current liabilities	9,546,430
Leaving a working balance of	$ 3,166,276

This was a very great improvement for the company's working capital over the previous year, when, on account of various expenditures, the current liabilities were nearly $5,000,000 in excess of the current assets.

The items of cash amounted to $8,245,502, and the balance to the credit of profit and loss was $18,130,045.

Investment Value.

A road which in six years has been able to add 50% to its gross earnings on an actual increase of railway capital proper of not more than 15%, has obviously kept its property in the pink of condition. After charging its earnings heavily for improvements, it is probable that the actual earnings which have gone back into the road have very considerably exceeded the amounts shown in the reports, and given in the tables above, but this has been the policy of all the prosperous roads of the United States, and what one road does another more or less must do. For this reason it would probably be safe, as already noted, to consider the actual earnings of the Louisville & Nashville on its stock, exclusive of equities, at about the percentage shown in the table of surplus above.

On the other hand, the road might at a pinch of necessity have added at least one million dollars to its other income, by increasing the dividends of the controlled roads, and were the surplus of the roads in which it has a joint interest with the Atlantic Coast Line and Southern Railway likewise to be divided, this might add from $400,000 to $500,000 more. Excluding this latter consideration, it is safe to say that the actual earnings of the Louisville & Nashville in 1906 available for dividends on its stock was not less than $10,000,000, or equivalent to 16.2% on the stock outstanding. Even on a scale of a dollar for dividends, and a dollar for improvements (which few roads, the Pennsylvania least of all, adhere to), the Louisville & Nashville in 1906 could have comfortably paid 8% dividends and turned back an equal amount; that is to say, nearly $5,000,000 into the betterment of the road.

If, therefore, the road were to be taken over under lease by the controlling Atlantic Coast Line, it is safe to say that the minority of the stockholders, who apparently hold about 49% of the stock, would probably not be willing to accept an offer of less than an 8% guarantee. The road is at present paying 6% dividends, and on this basis the stock would readily be entitled to sell around $150 per share, with money ruling at 4%. If no more than 1% were added to the dividend, this would readily carry the stock to from $165 to

$175 per share on earnings as solid and management as conservative as that of this company. If the south should experience no serious setback, and the traffic of the road no more than hold its own, it is not improbable that a 7% dividend would be paid, and eventually an 8% dividend.

On a 5% basis, Louisville & Nashville sold up to a high point of $159 per share in 1902, a figure reached largely through the remarkable occurrence of that year already detailed; it sold off to $95 in the year following. On a 6% basis it touched $157 in 1905, and about the same figure n January of 1906. In the very heavy decline in the spring of 1907 it sold off to $108 per share. This is probably a bed rock figure. It is probable that purchased at anything like $125 per share or better, its general tendency would be considerably above this figure, and it is obvious that if the road were taken over by the Atlantic Coast Line, at a guarantee of 7% or 8%, it would, with the strong backing of this company, tend to sell on a 4% basis; that is to say, at from $175 to $200 per share.

MAINE CENTRAL RAILROAD.

The Maine Central is a subsidiary company of the Boston & Maine, the latter owning the majority of its capital stock. It is operated in close connection with the Boston & Maine, and has the same president as the latter.

The road represents the consolidation of Maine railroads in 1862, and the larger part of its mileage lies within that state.

The main line of the road extends from Portland, through Bangor to Vanceboro, on the Canadian border, and again to Calais and Eastport, at the extreme easterly sea line of the state. Another important branch extends from Portland northwesterly through the White Mountains to Lime Ridge in Canada, connecting with the Canadian Pacific and the Quebec Central. It operates a total of 816 miles, and this mileage has not changed materially in recent years.

Ownership.

The directorate of 1906 included five directors of the Boston & Maine—Lucius Tuttle, president; Samuel C. Lawrence, Medford, Mass.; Lewis Cass Ledyard, New York; Henry M. Whitney, an important figure in New England financial affairs, Brookline, Mass., and Alvah W. Sulloway, Franklin, N. H. The other directors were George F. Evans, vice-president and general manager, Portland, Me.; Franklin A. Wilson, Bangor; John Ware, Waterville, Me.; United States Senator William P. Frye, Lewiston, Me.; Joseph W. Symonds, Edward P. Ricker, South Poland, Me., and George Varney, Bangor. The road reported in 1905, 779 stockholders.

The affiliations of the road are naturally those of the Boston & Maine.

Capitalization.

On June 30th, 1906, the capital account of the road stood as follows:

Common stock	$ 4,976,100
Other stock	11,900
Total	$ 4,988,000
Funded debt	11,892,192
Nominal capital	$16,880,192
Rentals, capitalized at 4%	13,779,000
Approximate gross capital	$30,659,192
Securities held	1,107,624
Approximate net capitalization	$29,542,468
Average net capitalization per mile	$36,204
Miles operated	816
Net earnings on net capital	5.9%
Stock on net capital	17%
Fixed charges on total net income	46%
Factor of safety	(See text.)

The reports of the road show the capitalization of the leased lines, the stocks and bonds of the latter amounting to $14,500,000. This, it will be seen, is very near to the figure obtained by capitalizing at 4% the rentals paid by the Maine Central.

The estimated net capitalization here shown is rather low for an eastern road, its $36,204 per mile standing against $77,660 per mile for the Boston & Maine, and $103,741 per mile for the New Haven.

From the gross earnings there is to be deducted $139,000 net earnings from water lines, which are included, however, in the total net income. On this basis the net earnings show 5.9% on the estimated net capital. Operating expenses were, however, very heavily charged, and include items of $828,027 expended for new equipment and $434,553 appropriated for second track, shops and terminals. Were these two items added to the net earnings, the percentage shown would naturally have been much higher—about 10%. As it is, the 5.9% for the Maine Central stands against 5.6% for the Boston & Maine and 8.2% for the New Haven.

The capital stock represented only 17% of the estimated net capitalization, and, nominally, fixed charges for 1906 consumed 77% of the total net income. If, however, the $1,262,580 expended for improvements noted above had been included in the total net income,

the fixed charges would consume only about 46% of the whole. As these appropriations were purely arbitrary, it follows that the margin of safety for the underlying securities is large, and as the earnings of the road are comparatively even, the bonds of the road are a gilt edge class of security.

The company's holdings of stocks and bonds are small. The especial items are 5,934 shares of the Portland & Ogdensburg Railroad and 5,451 of the Boston & Canada Railway, these and other items being carried on the books at a total valuation of $1,107,624.

In the five years from 1901 the nominal capitalization of the road has slightly decreased through the discharge of bonds, while the gross earnings have increased 23%. This is an excellent showing.

Character and Stability of Traffic.

The Maine Central does a very general transportation business; its passenger earnings represent nearly 40% of the gross earnings; and its freight tonnage is widely distributed, there being no single item of any importance. While the mileage operated has not increased within the last ten years, the gross earnings per mile have risen from $7,191 to $9,381. This increase has been very even, as the following table will show:

Year	Miles Operated	Gross Earnings	Per Mile
1900–1............	816	$5,868,547	$7,191
1901–2............	816	6,194,304	7,591
1902–3............	816	6,541,160	8,016
1903–4............	816	6,773,560	8,301
1904–5............	816	7,099,219	8,700
1905–6............	816	7,655,655	9,381

The charges have been as follows:

Year	Traffic Density	Maintenance per Mile		Total*
		Way	Equipment*	
1901–2.......	404,975	$1,325	$1,316	$2,641
1902–3.......	417,999	1,413	1,339	2,752
1903–4.......	451,458	1,338	1,534	2,872
1904–5.......	486,194	1,509	1,003	2,512
1905–6.......	544,209	1,813	1,790	3,603
Average....	460,967	$1,479	$1,396	$2,875

* Estimated.

Maintenance.

The reports of the Maine Central are not made up in the ordinary form, and included in the maintenance charges for 1906 is $828,000 paid for new equipment, which brings up the estimated maintenance of equipment to a very high figure per mile, as compared with previous years.

Maintenance of way was likewise charged on a much higher basis than in former years, the total maintenance amounting to $3,600 per mile as here estimated. This surcharge of maintenance is shown in the increased percentage of operating expenses, and it is safe to say that on the traffic density of the Maine Central, the maintenance in former years has been adequate, so that the extra thousand dollars per mile apparently appropriated for 1906 represents a considerable surcharge. This is almost exactly the amount paid for the new equipment.

It has, however, been the policy of the road for a series of years to make such appropriations from its earnings, the amount in detail for five years being as follows:

1901-2	$637,796
1902-3	641,920
1903-4	740,237
1904-5	191,764
1905-6	828,027

From the surplus of 1904-5, $300,000 was also set aside for new terminals at Bangor, and an additional $100,000 in 1906.

Surplus Earnings.

While the gross earnings rose 25% in five years, the surplus shown has hardly made a corresponding increase. It is evident, therefore, that the surplus has been adjusted to income. On this account the percentage shown as earned upon the common stock is merely a nominal figure.

The items have been as follows:

Year	Surplus	Dividends Earned on Common	Per cent. Paid on Common	Average Price
1901–2	$360,597	7.2	6	163
1902–3	407,201	8.1	6	169
1903–4	431,653	8.6	7	176
1904–5	577,263	11.5	7	185
1905–6	418,027	8.9	7	198

The Maine Central paid 6% through twenty consecutive years; that is to say, from 1884 to 1903 inclusive. Beginning with 1904, it has paid dividends at the rate of 7%.

The Balance Sheet.

The general balance sheet for June 30th, 1906, showed:

Current assets	$1,956,249	
Sundry assets	1,441,234	
Total		$3,397,483
and current liabilities	$ 887,717	
Sundry items	2,351,636	
Total		$3,239,353
Leaving a balance of		$ 158,130

The amount to the credit of profit and loss was $1,176,992.

Investment Value.

The stock of the Maine Central is held chiefly in New England, where it is highly regarded by reason of its conservative management and the uninterrupted payment of dividends through good years and bad. In 1903, in anticipation of the increase of the dividends, the stock touched $195 per share; it subsequently sold off in 1904 to $158, rising again to $198 in 1906, and declining but little in the general slump of 1907.

It is obvious that this could be due only to the fact that the road is actually earning much beyond its dividend, and that there is little of the stock for sale. In 1905, the actual surplus earned was above $1,000,000, and in 1906 the amount, including $1,262,000 new equipment, second track construction, etc., charged to operating expenses, was $1,666,000. If the average of these two years had been evenly divided between dividends and improvements, this would still have justified 12% or even 15% dividends, or twice the amount paid. It matters little to the stockholders whether earnings be paid in divdends or spent in betterments, providing always that the money is well spent. Should the favorable showing which the road has made be continued, the stock would eventually sell at much higher figures than any it has yet reached.

This possibility became accentuated by the virtual merger of the Boston & Maine system with the New Haven in 1907.

MICHIGAN CENTRAL RAILROAD.

The Michigan Central is little more than one of the larger divisions of the New York Central. Nominally it is operated separately, owned separately, but it has much the same set of directors and officers, and the New York Central owns 90% of its stock. It is therefore of interest only for the equities which the New York Central may have in its earnings.

In 1898, for $16,814,000 par value of stock, the New York Central exchanged $19,336,000 3½% collateral gold bonds; i. e., at $115 per share. A dividend of 4% on the stock just about equals the interest on the bonds, so that all earned over 4% is clear gain to the New York Central.

Under the Michigan Central is now included also the Canadian Southern, leased to the Michigan Central for 999 years, the latter guaranteeing the interest on its bonds and a 2½% dividend on the $15,000,000 of the stock until 1910, and thereafter at 3%.

At the close of 1906 the company acquired a majority of the capital stock of the Chicago, Kalamazoo & Saginaw Railway—55 miles—and during the year it also acquired $3,000,000 par value of the common stock and $3,000,000 of 4% bonds of the Chicago, Indiana & Southern, the balance of the stock and the larger part of the bonds of that road being owned by the Lake Shore.

In 1905 the road reported only 508 shareholders.

Capitalization.

As of January 1st, 1907, the capital account stood as follows:

Stock	$18,738,000
Funded debt	25,265,000
Canada Southern bonds	20,000,000
Canada Southern stock	15,000,000
Other leased line bonds	1,778,100
Total capital	$80,781,100
Rentals capitalized at 4%	4,732,755

Approximate gross capitalization....	$85,513,855
Securities held..........................	10,833,338
Approximate net capitalization......	$74,680,517
Approximate net capitalization per mile..	$42,796
Average miles operated..................	1,745
Net earnings on net capital.............	6.1%
Stock on net capitalization..............	25%
Fixed charges on total net income (est.)..	57%
Factor of safety (est.)..................	43%

It will seen that the net capitalization for a road earning $15,000 per mile is fairly low. Yet, on the estimated net capital the net earnings as shown in the company's reports for 1906 amounted to only 6.1%. This figure is, however, misleading. Further reference to the report will show that the operating ratio for 1906 was 82.7%. It has been around this figure for a number of years, and this is due to heavy sums for improvements charged directly to operating expenses. The operating ratio of the New York Central is about 70%, the Lake Shore 62%, the Nickel Plate 70%; and it is easy to see that the normal operating ratio of a road of the Michigan Central's high standard would not exceed 70% at the outside. Net earnings concealed in the maintenance accounts have therefore been estimated for 1906 at 12%. If this amount be added to the net earnings shown, the percentage of net earnings on net capital would be equivalent to about 8.8%, and fixed charges, which nominally consumed 80%, do not, in reality, consume above 57% of the actual total net income.

The proportion of stock to the total net capital is small, 33%, but the earnings of the road are very stable. For a series of years they have shown as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896..............	1,642	$13,821,614	$8,416
1897..............	1,658	13,697,239	8,261
1898..............	1,658	14,046,149	8,471
1899..............	1,658	15,504,062	9,351
1900..............	1,635	16,730,131	10,232
1901..............	1,658	18,490,274	11,152
1902..............	1,653	19,045,083	11,527
1903..............	1,653	22,552,201	13,643
1904..............	1,653	21,492,944	13,002
1905..............	1,745	23,283,868	13,343
1906..............	1,745	26,275,588	15,057

Miles of second track, 220.

It will be seen that in ten years the earnings have very nearly doubled, and this has been accomplished with a very small increase in capitalization.

Maintenance.

For a series of years the traffic density and maintenance have shown as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900..........	1,226,914	$1,616	$1,472	$3,088
1901..........	1,254,314	2,076	1,667	3,743
1902..........	1,188,813	2,279	1,440	3,719
1903..........	1,486,839	2,098	2,090	4,188
1904..........	1,413,724	1,896	1,972	3,868
1905..........	1,574,483	1,959	2,514	4,473
1906..........	1,744,591	2,000	3,176	5,176
Average....	1,426,077	$1,989	$2,047	$4,036

The increase of maintenance charges for 1906 over 1905, with the same mileage operated, amounted to $1,225,000, and the charges for 1905 were undoubtedly high. They have been high for years, and represent a steady policy of improvements from earnings. It is safe to say that the surcharge in maintenance in 1906 was not less than $1,200 per mile, and this amount on the 1,745 miles operated would reduce the operating expenses to a 70% basis.

Surplus Earnings.

It may be assumed, therefore, that the actual surplus for 1906 was about $2,000,000 greater than that shown in the report. With an increase of 50% in gross earnings, the nominal surplus from 1900 has shown as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common
1900...........................	$ 840,666	4.5	4
1901...........................	983,297	5.2	4
1902...........................	1,110,646	5.7	4
1903...........................	1,244,773	6.	4
1904...........................	872,775	4.1	4
1905...........................	973,453	5.2	4
1906...........................	987,827	5.2	5

In 1906 the stock was put on a 6% basis, so that, nominally, the road did not earn its dividend for that year. The actual surplus

earnings were at least equal to, if they did not exceed, $3,000,000, or equivalent to about 16% on the capital stock. If this sum were evenly divided between dividends and improvements—and the most conservative policy could scarcely ask more—the road might readily have paid 8%. On the most conservative basis, therefore, the New York Central's equity in the earnings was at least 2% on the capital stock owned, or about $330,000 for 1906, above the regular 6% dividend.

The Michigan Central paid a 4% dividend from 1895 up to 1906.

The Balance Sheet.

The balance sheet for the end of 1906 indicated clearly enough that the company was in need of working capital. It showed:

Current assets	$ 5,108,037
Current liabilities	12,622,228
Leaving a debit balance of	$ 7,514,191
In addition to the above there were	
Items of liabilities in suspension of	$ 1,906,640
Making a total adverse balance of	$ 9,420,831

There were loans and bills payable of $6,250,000 and sundry accounts payable exceeded accounts collectable by over $2,500,000.

The credit of the company is high, and the sale of $10,000,000 3-year 5% notes in January of 1907 provided the company with ample funds with which to carry on its improvement work.

Investment Value.

In 1906 the Michigan Central was building the third rail electric tunnel road under the Detroit River from Windsor, Ontario, to Detroit, Michigan. It will be two and one-half miles long, and is estimated to cost between eight and ten million dollars. The bonds of the Detroit River Tunnel (authorized issue $15,000,000) will be guaranteed by the Michigan Central. This tunnel will add in the neighborhood of $400,000 to the fixed charges of the road, but, with traffic merely at the present level, the officials of the road estimate that the tunnel will easily effect a saving in the cost of operation over the present car ferry system ample to provide for this increase. On the other hand, the construction of this tunnel will very considerably transform the character of the Michigan Central and its completion should add very materially to the gross earnings of the road.

The double tracking of the road from Chicago to Niagara was not complete in 1906, and this expenditure will call for still further loans or expenditures from earnings.

The equipment of the road is obviously inadequate from the fact that it paid in 1906 a balance of car mileage of $973,663, a considerable increase over the $770,595 paid in 1905. Considerable additions to the rolling stock will therefore be required to keep pace with the growing traffic of the road.

In view, therefore, of the highly conservative dividend policy of the Vanderbilt roads, it is not improbable that the increase of the dividend from 4% to 6% in 1906 will fix the dividend rate for some years to come.

On a 6% basis the stock would not be especially cheap, therefore, at above $150 per share. It sold as high as $200 per share in 1906. There is very little of the stock to be had, and while it is as solid as any stock upon the list, there are others with an equal degree of security on which the return would be higher.

MINNEAPOLIS AND ST. LOUIS RAILROAD.

The Minneapolis & St. Louis is one of the smaller railroads of the Mississippi Valley which have not yet been absorbed by any of the larger systems. It belongs in the Hawley group, which also owns the Iowa Central, and the two roads have the same operating officers, though they report separately. The "Clover Leaf" (Toledo, St. Louis & Western), is controlled by much the same set of interests.

Formerly distinctly a north and south line, the company has now a line reaching from Minneapolis to Watertown in South Dakota, and this line is being extended westerly to the Missouri River. It has also a branch extending southward from Winthrop to Storm Lake in Iowa, where it joins the Illinois Central.

History.

The original Minneapolis & St. Louis was a short line which gave the Burlington, Cedar Rapids & Northern, and through that line the Rock Island, a route from Chicago to St. Paul. The road was sold under foreclosure in 1894, and the present company is a reorganization of that year. In 1899 the company purchased from the Wisconsin, Minnesota & Pacific a line into South Dakota. In 1900 the new interests in the road obtained control of the Iowa Central, since which time the two roads have been operated together.

The extension to Storm Lake, Iowa, was completed the same year, and in 1904 the Minneapolis & St. Louis acquired by purchase a controlling interest in the Des Moines & Fort Dodge, operating 157 miles. Stock of a par value of $2,530,000 out of a total of $4,283,000, was obtained at a cost of $641,678.

At the close of the fiscal year of 1906 the road was operating a total of 799 miles. It runs mainly through farming country, but the Iowa Central reaches a number of coal mines, which contribute to the traffic of the two roads.

Ownership.

The directorate of 1906 included Edwin Hawley, president, also president of the Iowa Central and head of the Hawley group of roads; H. E. Huntington, of Los Angeles, at the head of a very extensive system of suburban railways in Southern California; James N. Wallace, president of the Central Trust Company of New York; also a director in the National Railway of Mexico; John E. Searles, president of the Tennessee Northern; Levi C. Weir, president of the Adams Express Company, also a director in the Norfolk & Western; George Crocker and F. E. Palmer, New York; L. F. Day, vice-president, and F. H. Davis, treasurer of the road.

The directorate of the Iowa Central includes much the same group, with the addition of Theodore P. Shonts, president of the Clover Leaf, and Paul Morton, president of the Equitable Life Assurance Society.

Capitalization.

For the purpose of extending its line westward from Watertown, South Dakota, the road issued $5,000,000 of notes in 1905. The notes are secured by the entire issue of capital stock and the first mortgage bonds of the construction company, and at the close of the fiscal year of 1906 the road had on deposit with the Central Trust Company of New York securities valued at $4,767,997.

The road also guarantees, both as to principal and interest, the first mortgage bonds of the Des Moines & Fort Dodge. Including all these items, its capital account on June 30th, 1906, stood as follows:

Common stock	$ 6,000,000
Preferred stock	4,000,000
Total stock	$10,000,000
Funded debt (net)	19,070,000
Des Moines & Fort Dodge guaranteed bonds	3,072,000
Five year notes	5,000,000
Total capital	$37,142,000
Securities held	5,996,997
Approximate net capital	$31,145,003

Approximate net capital. per mile........	$38,978
Average miles operated................	799
Net earnings on net capital............	5.0%
Stock on net capitalization..............	31%
Fixed charges on total net income.......	77%
Factor of safety........................	23%

The rentals received about balance the rentals paid, so that this was a negligible item.

The capitalization per mile compared with other lines in the same territory is undoubtedly high, the average of $38,978 per mile comparing with $33,900 for the St. Paul, $32,057 for the North Western, and $29,128 for the Burlington. And where all three of these roads earned in the neighborhood of $8,000 per mile, the Minneapolis & St. Louis in 1906 earned only $4,664.

This fact of over-capitalization is further attested by the fact that the net earnings for the flush year of 1906 represented only 5% on the estimated net capitalization. This for a western road was very low. The same figure on the St. Paul was 9.8%, on the North Western 10.5%, and for the Burlington 8.7%.

Nor is this over-capitalization largely represented by harmless stock on which no dividends are being paid. Of the estimated net capitalization the stock represents only 31%. The combined result of these factors is that in 1906, even after extremely modest maintenance charges, the fixed charges consumed 77% of the Total Net Income.

This left a Factor of Safety for the relatively large amount of funded debt of only 23%, and it is to be remembered that these represent the proportions in a year of almost unparalleled prosperity for the territory through which it runs.

The securities owned by the company are principally the stocks or bonds of subsidiary organizations, in none of which does there lie equities of any importance.

Increase of Capitalization.

Dating from 1898, the mileage taken over by the reorganized company has been rather more than doubled. Comparing the capitalization at the beginning and end of this period, we find that in 1898 the company had outstanding stocks and bonds to the amount of $22,500,000, and in 1906, excluding the borrowings for new construction, $32,142,000. This was an increase of about 46%. In the meanwhile gross earnings increased 67%. It will be seen therefore,

that the over-capitalization dates from the reorganization of the road, and that the company is now earning considerably more on its invested capital.

Stability of Earnings.

Of the company's revenue freight, nearly one-half is farm products, the balance being distributed over coal, lumber and general merchandise. Passenger earnings are relatively high, contributing nearly 30% of the gross earnings in 1906.

Comparing the earnings of the road, it will be seen that the extensions of the road since the reorganization have considerably reduced its average earnings per mile, the items for a series of years comparing as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896..............	370	$2,006,505	$5,424
1897..............	366	2,246,584	6,141
1898–9............	436	2,500,004	6,001
1899–0............	514	2,863,308	5,568
1900–1............	633	3,275,504	5,174
1901–2............	633	3,540,840	5,593
1902–3............	642	3,265,472	5,086
1903–4............	642	2,850,565	4,440
1904–5............	730*	3,076,756	4,212
1905–6............	799*	3,726,665	4,664

* Includes Des Moines & Fort Dodge Ry.

This reduction in the average earnings per mile is in the contrary direction to most western roads, and indicates the inherent weakness of the line. Its tracks run through a relatively well-settled farming country, and a large part of the traffic is local business. The line does not connect any important terminals, and for this reason it is almost entirely dependent upon the very gradual growth of its territory.

Maintenance.

It will be seen from the following table that the traffic density of the line is very low, and that instead of increasing, as has been true generally of western roads in a very notable degree, this traffic density has declined with the doubling of the mileage of the road. The items compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	370,728	$ 939	$485	$1,424
1901–2.......	345,809	1,036	440	1,476
1902–3.......	279,832	732	474	1,206
1903–4.......	240,426	483	473	956
1904–5.......	255,612	463	450	913
1905–6.......	276,813	556		1,071
Average....	294,870	$701	$473	$515
Wis. Central..	715,270	$793	$700	$1,493
C. & N. W....	640,983	991	858	1,849
St. Paul......	601,003	929	632	1,561

Corresponding with this decline in the average traffic density has been a corresponding decline in the appropriations for maintenance from nearly $1,500 per mile in 1900-1 to a little over a thousand dollars per mile in 1906, but this reduction has been rather heavier than the reduction in average traffic, so that the road could hardly have been as well maintained in 1906, as, for example, in the two years noted.

Comparison is introduced with three roads which lie in more or less the same territory. It will be seen that, traffic densities compared, the average maintenance for six years for the Minneapolis & St. Louis seems favorable, but it is quite impossible to maintain one road of half of the traffic density of another for half the average expenditure per mile. And on none of the three roads put in comparison has maintenance been very liberal. In the case of the St. Paul it has been notably low. It seems fairly certain, therefore, that this is about bedrock maintenance for the Minneapolis & St. Louis, and that no surplus earnings are concealed in this item.

Furthermore, where the North Western and the St. Paul, for example, set aside large sum for earnings from improvements, no specific appropriations of this sort have been made by this company, and the amount carried to credit of profit and loss is not large.

Surplus Earnings.

The nominal surplus shown before dividend payments for six years has been asfollows:

Year	Surplus	Dividend Paid on Preferred	Per cent. Earned on Common	Dividend Paid on Common	Average Price
1900–1....	$553,762	5	5.8	4	89
1901–2....	696,724	5	8.3	5	110
1902–3....	511,915	5	5.1	5	75
1903–4....	298,078	5	1.6	2	54
1904–5....	257,495	5	1.	–	70
1905–6....	416,029	5	3.6	–	75

It will be seen that from 1901 to 1902 there was a rather sharp decline, and in 1904 the dividend payment on the common stock was passed, and has not since been resumed. In 1905, for example, after the lowest maintenance per mile of any of the years under view, the 5% on the preferred was barely earned.

Dividend Record.

With the reorganization of the company there were two classes of preferred, the first preferred being retired in 1899, bonds being substituted. The record of dividend payments is as follows:

	1st Preferred	Preferred	Common
1895..............................	3¾ (8 mo's.)		
1896..............................	5	3	
1897..............................	5	3	
1898..............................	2½	3½	
		Sole Pref.	
1899..............................		4½	
1900..............................		5	1½
1901..............................		5	4
1902–3............................		5	5
1904..............................		5	2½
1905..............................		5	
1906..............................		5	

The Balance Sheet.

The balance sheet of the company is not made up in the usual form. At the close of the fiscal year of 1906, excluding from the current assets the items of securities owned and likewise of material on hand, there were net assets of only............$ 364,205
Against this there were liabilities of............. 1,174,747

Leaving a debit balance of...........$ 810,542

There were deferred assets, including securities on deposit for construction borrowings, of $5,842,518, against which there were deferred liabilities of $5,454,323.

The item of cash in the current assets was $235,622. It does not appear from the balance sheet that the company was in very good shape for working capital.

Investment Value.

The preferred stock is entitled to 5% non-cumulative dividends, and after 5% has been paid on the common, both classes of stock share alike. The full 5% on the preferred has been paid for six years, and the 5% on the common in both 1901 and 1902. The increased surplus shown tended to give a solid appearance to the stock, and in 1901 the preferred sold as high as $124 per share, and in the boom of 1902, $127. It declined to $80 per share in 1904, and in 1906 ranged between $90 and par.

By reference to the table above it will be seen that in the two years of 1904 and 1905 the preferred dividend was barely earned, even after low maintenance charges. Even in the generally prosperous year of 1906 there was no great margin of surplus after the dividend payments. These things considered, the average investor will probably not regard the preferred as a very solid security, and should high money rates continue, the stock will probably tend to sell lower rather than higher.

Under the 5% dividends paid in 1902 and 1903, the common stock sold above par, reaching $115 per share in 1902. When the dividend was passed in July of 1904, as it had to be, the stock sold down to $40 per share. In 1906 it ruled at generally high prices, reaching $84 in the January boom.

It is difficult to see on what basis these prices were reached unless the control of the road could have been picked up in the market. It is true that a stock which has recently paid dividends tends to sell higher even after dividends are passed than of a company with equal earnings on which no dividends have recently been paid. The investor will not fail to take note of the fact that the surplus shown has declined rather than increased in the largely prosperous years of 1905-6, and it is not clear that the extensions of the road in progress will tend very materially to swell the sums available for dividends. There are on the market a number of non-dividend securities with regard to which the reverse is true; that is to say, where earnings and surplus have been steadily increasing, and where a surplus is shown, after large amounts for improvement work have been charged off to operating expenses, and the maintenance figures have been extremely liberal. Some of these stocks were selling in 1906 at half the quotations shown for Minneapolis

& St. Louis common. Especially as regards wheat-raising territory, which the road reaches, the year of 1906 was of such extraordinary prosperity as to make cautious investors apprehensive of its continuance. Security buyers of this class probably, therefore, will not look upon the showing made by this company as indicating great possibilities for its stock.

MINNEAPOLIS, ST. PAUL AND SAULT STE. MARIE RAILROAD.

The Sault Ste. Marie, or as it is familiarly known, the "Soo," is virtually the Canadian Pacific Railway in the United States, the latter road owning a majority of its capital stock and guaranteeing a large proportion of its bonds. The road has been extending rapidly within recent years, and at the close of the fiscal year of 1906 showed a total mileage of 2,135 miles.

The road extends from the Falls of Saint Mary, at the extreme eastern end of Lake Superior, westward through peninsular Michigan and northern Wisconsin to Minneapolis and St. Paul, and thence northwesterly to Portal, in North Dakota, on the Canadian boundary, with extensive branches carrying the line from Glenwood, Minn., to Winnipeg; from Hankinson, N. D., through Bismarck to Plaza, and from Thief River Falls in northern Minnesota to Kenmare, N. D.

Both at its eastern, northern and western terminals it meets with the lines of the Canadian Pacific, and virtually forms a second track for this road through middle Canada into the province of Saskatchewan.

The road is a consolidation, in 1888, of the Minneapolis, Sault Ste. Marie & Atlantic, the Minneapolis & St. Croix, the Minneapolis & Pacific, and the Aberdeen, Bismarck & Northwestern.

During the year of 1906 the Thief River line was opened for business, together with several branches in North Dakota, and the extensions under way will bring up the length of the road operated in 1907 to nearly 2,200 miles.

Of the mileage operated, 632 miles lie east of Minneapolis; 1,483 west. The peculiarity of the road is that the eastern line is not profitable, and that the eastern portion is supported out of the earnings of the western portion. It follows, therefore, that as the western portion is developed, the burdens of the eastern portion become relatively lighter.

The last five years have been years of extraordinary prosperity for Minnesota and Dakota, and it is this which accounts for the favorable change in the fortunes of this road.

Ownership.

Slightly more than half of both the common and the preferred stock is owned by the Canadian Pacific, together with $3,933,000 par value of the 4% consolidated bonds. In addition to this the Canadian Pacific guarantees 4% interest on all of the outstanding bonds assenting to a reduction of interest to this rate.

Although the road is thus owned outright by the Canadian Pacific, and runs in close affiliation with the latter, it is separately officered, and only three representatives of the Canadian Pacific appear in the directorate. These are Sir Thomas Shaughnessy, president of the Canadian Pacific; Sir William Van Horne, chairman of the board, and R. B. Angus, all of Montreal. The other directors are Thomas Lowry, president; E. Pennington, vice-president and general manager; W. L. Martin, second vice-president and traffic manager; W. D. Washburn, C. H. Pettit, Alfred H. Bright and G. R. Newell, of Minneapolis, and E. A. Young, of St. Paul.

Capitalization.

The capital account on June 30th, 1906, stood as follows:

Common stock	$14,000,000
Preferred stock	7,000,000
Total stock	$21,000,000
Funded debt	50,115,000
Total capital	$71,115,000
Rentals capitalized at 4%	15,339,000
Approximate capital	$86,454,000

Approximate capitalization per mile	$42,800
Average miles operated	2,020
Net earnings on net capitalization	6.7%
Stock on total capitalization	24%
Fixed charges on total net income	44%
Factor of safety	56%

The amount of the securities of the road held in the treasury is so small ($441,000) that it has been neglected in the above table.

It will be seen that the average capitalization per mile for a prairie line of the character of the "Soo" is decidedly high, com-

paring with $59,512 per mile for the Northern Pacific, $42,362 per mile for the Great Northern, and $28,613 for the Canadian Pacific.

On the face of the returns, and in the extremely prosperous year of 1906, the net earnings showed a fair percentage on the estimated net capitalization—6.7%. The figures for the net earnings shown by the report, however, were obtained through skimping operating charges in a fashion not followed by well-managed American roads. Had the maintenance charges for the year been up to the level of the usual American practice, the increase would have added from three-quarters of a million to a full million dollars to the operating expenses, and cut down the net earnings shown by this amount.

If such a reduction be made, the percentage of net earnings on net capitalization would be nearer 5½%, which is a rather low figure for a western road. It compares with 10.1% for the Great Northern and 10.5% for the Northwestern.

Nor is the larger part of this capitalization in the form of harmless stock. It will be seen that three-quarters of the estimated capitalization is interest-bearing debt, or its equivalent, rentals. This debt, however, carries a low rate of interest, taxes are light, and the fixed charges for 1906 consumed only 44% of the net earnings shown. Even if the operating expenses had been charged in the usual fashion of American roads, with the corresponding reduction in the available net income, the fixed charges for 1906 would have required only a little more than half of the resulting amount, so that on the basis of 1906, the factor of safety for the bonded debt amounted to well around 50%.

Holding very few securities, and having no land grants, the equities of the road are negligeable.

Increase of Capitalization.

The rapid growth of the line through the Dakotas and into Canada has called for a considerable outlay of capital. This has been met entirely by the issue of bonds, the capital stock of the road not having been increased since the reorganization of the company in 1888.

The comparison of the six years is as follows:

Year	Common Stock	Preferred Stock 7%	Funded Debt	Total Capital	Gross Earnings
1899–0.....	$14,000,000	$7,000,000	$33,043,023	$54,043,023	$5,151,187
1905–6.....	14,000,000	7,000,000	50,115,000	71,115,000	11,574,461

Increase over six years: Total capital, 30%; gross earnings, 124%.

The new constructions in North Dakota have been extremely profitable, it being stated that some of the new lines, as, for example, the Winnipeg line, paid from the beginning of operations. It is largely these new constructions which have lifted the road to its present position.

Character of Traffic.

The most considerable single item in the freight movement of the road is lumber, amounting to 37%. After this comes grain, flour and other mill products amounting to over 30% ; the rest is a widely distributed miscellany. Carrying wheat eastward, carrying lumber westward, constitute the principal business of the road.

Passenger earnings bring in about 21% of the gross earnings.

Stability of Earnings.

The following table shows the results of operations since 1897. It will be seen that in these ten years the mileage has nearly doubled, the gross earnings have much more than doubled, and even the earnings per mile have increased about 75%.

Year	Miles Operated	Gross Earnings	Per Mile
1897–8............	1,195	$4,132,699	$3,458
1898–9............	1,272	4,348,585	3,470
1899–0............	1,286	5,151,187	4,006
1900–1............	1,312	4,517,375	3,442
1901–2............	1,396	6,222,387	4,455
1902–3............	1,464	7,237,264	4,943
1903–4............	1,530	6,993,498	4,571
1904–5............	1,774	8,716,621	4,913
1905–6............	2,020	11,574,461	5,728

The heavy increase of $800 per mile in 1906 is noteworthy. Prosperity in the wheat fields seems to run in long cycles, and the highly favorable conditions of recent years resulted in 1906 in another wild "land boom" for the Northwest, through which the earnings of the roads in this territory were heavily swollen. This is not the sort of traffic that makes for solidity, and the culmination of these boom periods is regarded with apprehension by careful investors. Nevertheless, it is unquestionably true that the Northwest is in a far better shape than it was to meet such bitter years as followed the collapse of the early nineties, and much more able to stand a period of depression.

Another factor to be taken into consideration is that the average rate per ton received by the road in 1906 was in excess of the rate for the previous year, rising from 72 cents to 78 cents, the

difference on the total freight traffic for the year amounting to $400,000 in the gross receipts.

It is to be noted that an increase in rates is not in the general line of western railroad development, and that in less prosperous days the opposite tendency would probably be shown.

Maintenance.

The following shows the sums devoted to maintenance over a period of six years:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	407,687	$472	$363	$835
1901–2.......	442,511	490	374	864
1902–3.......	482,083	547	450	997
1903–4.......	443,510	461	477	938
1904–5.......	497,455	419	497	916
1905–6.......	536,606	505	539	1,044
Average. ..	468,308	$482	$450	$932
Can. Pac......	458,589	850	1,002	1,852
Gt. Nor.......	650,321	960	594	1,554
Nor. Pac......	729,102	1,300	791	2,091

It will be seen that with an average traffic density about the same as that of the Canadian Pacific, the average maintenance charges in 1906 for the "Soo" were about $800 per mile less. This is a very considerable figure, and on over two thousand miles of operated road would make a deep cut into the nominal surplus shown in the report. Furthermore, it was shown in the discussion on the Canadian Pacific's maintenance, that the charges of that road are rather below those of other Pacific roads, with the possible exception of the Great Northern.

At the most conservative estimate, the maintenance charges for 1906 would have been at least 50% higher than they were, or a difference of $500 per mile, if the usual practice of American roads had been followed. This difference of $500 per mile would have meant the addition of $1,000,000 to the operating expenses.

The figures shown for the operating expenses appear to add further testimony of inadequate maintenance. In the face of the fact that the average of operating expenses for all the roads of the United States is about 68%, and that on some of the best managed roads of the country they are above 70%, an operating ratio of 50% seems absurd. It will generally be found that, as in the case of

the "Soo," it is secured by insufficient appropriations for the upkeep of the road. Had $1,000,000 been added to the operating expenses, the latter would have been increased by nearly one-fifth, and the operating ratio brought up accordingly to about 60%, still a low figure.

Improvements.

Nor have the insufficient maintenance charges been offset by large sums in special appropriations from the nominal surplus shown. The amount for 1901-2 was $300,000; for 1903, $200,000; for 1904, $250,000; and no appropriation at all was made in 1905. From the surplus of 1906, $1,050,000 was set aside for the improvement fund, which is just about the amount here estimated as required for adequate maintenance.

Surplus Earnings.

The sums devoted in previous years to improvements were quite insufficient to bring the maintenance charges up to the usual American standard, and in order to do this, there would therefore be further reductions from the items of surplus earnings shown below. The nominal surpluses shown by the company, charging its operating expenses after the fashion indicated, have been for six years, as follows:

Year	Surplus	Dividends Paid on preferred	Per cent. Earned on Common	Dividends Paid on Common	Average Price (Calendar Year)
1900–1.....	$ 327,873	—	—	—	20
1901–2.....	1,586,501	—	7.8	—	25
1902–3.....	1,664,497	7	8.4	2	60
1903–4.....	1,387,246	7	6.4	4	60
1904–5.....	2,063,415	7	11.2	4	75
1905–6.....	3,267,686	7	19.8	4	117

On the theory that an average of three-quarters of a million dollars might have been annually turned back into the road in the six years under view, without doing it any harm, the average surplus up to 1906 would have about paid the full 7% dividend on the preferred stock, but have left very little for the common—scarcely enough to have justified a dividend before the year of 1905.

But the year of 1906 was one of exceptional prosperity for the road, and even if a full million dollars had been added to the operating expenses for maintenance, there would have still remained a sufficient surplus to enable the road to set aside the

$1,050,000 which it did for improvement fund, pay its full 7% on the preferred, and still leave between 8% and 9% for the common. Should this prosperity continue, the directors could conservatively put the road on a 6% basis and still leave something over for the credit of profit and loss.

The full dividends on the preferred have been paid, beginning from 1903, and the same year 2% was paid on the common, and 4% since that time.

The Balance Sheet.

At the close of the fiscal year of 1906 the road showed current assets of $4,230,857; current liabilities, including interest and taxes, and car trust notes ($40,184) of $2,756,871, leaving a working balance of $1,473,986.

The item of cash was exceptionally large, amounting to $3,176,-580.

The amount to the credit of profit and loss (itemized as income account) was $5,413,109.

This showed the road in excellent condition with regard to its working capital.

Investment Value.

The rise in the stocks of the road since 1900 has been very rapid, corresponding to the improved earnings and the increased business, due to the extension of the road into the Northwest. In 1900 the preferred sold as low as $47 per share, rising to $139 in 1902, declining to $109 in the following year, and rising to a record figure of $183 in January of 1906. It sold at $123 in March, 1907.

The preferred stock is entitled to non-cumulative dividends up to 7%, and then after 7% has been paid on the common, it shares equally with the latter. Inasmuch as absolute control is held by the Canadian Pacific, the balance of the stock has no value otherwise than as an investment. Should the Northwest undergo no serious setback as came in the nineties, it would not be long, at the present rate of increase, before the full 7% was being paid on the common. There would then be a prospect for a further increase in the preferred dividend. Under the parentage of such a great, powerful system as the Canadian Pacific, the road is in an exceptionally favorable situation both for the maintenance of its traffic and the financing of such new issues as may be required for extensions, at favorable rates.

The cautious investor, however, will probably consider that the larger part of the earning power of the road lies in a country that

has been settled very rapidly, within a few years, and that it would not be at all surprising if the road failed to show so rapid an increase in the coming five years as in the previous period. In other words, the stock presents a considerable speculative risk, and is scarcely entitled to sell as high, on the basis of its present earnings, as the stocks of other roads which have added less mileage in recent years, and cover a more stable and settled territory.

The rise in the price of the common stock has been equally rapid. It sold as low as $14 per share in 1900, rising to $84 in 1902, and declining to $42 in 1903. In 1905 it rose to $145, touching the record price of $164 in March of 1906. In May of 1907, it sold at $90.

The average price for 1906 was above $150, and this for a 4% stock could only have been made in anticipation of a very considerable increase in the dividend. The 19% which the figures for 1906 show as earned on the common, over and above the preferred dividend, were, as has been explained already, somewhat delusive, and it seems doubtful if a conservative policy such as characterizes the Canadian Pacific, would justify more than a 6% dividend at the present time. On a 6% basis it is not clear that the stock should sell for more than does the Pennsylvania, and in comparison with this and other roads, the figures for 1906 seem very high. A 50% increase in dividend is considerable, and not generally undertaken on a single year, or even two years, of exceptional prosperity.

Considering its ownership, its management, and its excellent prospects, investors who look rather to the possible increase in the value of the stock than the actual return they receive in dividends, would doubtless regard the stock as an attractive purchase at somewhere around the low price of 1907. But the western territory into which the road reaches has been the scene of very heavy railroad extensions within the last few years, and unless the era of depressions has gone by, it is scarcely possible that the flush conditions in these states will undergo no check.

While the unexpected may always happen, for those who seek a safe place for their money, an extra degree of caution will scarcely go amiss in considering the securities of companies like this. The stock is attractive rather to speculative buyers of the type willing to take large chances for the sake of large possible gains.

MISSOURI, KANSAS AND TEXAS RAILWAY.

Some years ago, the Missouri, Kansas & Texas—the "Katy," as it is familiarly known, was set down, in a work on American railroads, as a road of the "nowhere to nowhere" variety. In ten years, however, its situation has very materially changed, and it is now a well organized north and south road from Missouri and Kansas to the Gulf, and a line towards which several of the larger systems cast covetous eyes. It runs through a rich and growing territory, but it was long handicapped by a heavy burden of debt, the legacy of a reckless or dishonest management. Spite of this, it has struggled through and was able to pay, in 1906, on its preferred stock the first dividend in its history.

History.

The Missouri, Kansas & Texas was organized in 1870, through the consolidation of the southern branch of the Union Pacific and several small lines operating in southern Missouri. Partly by absorption of other small lines, partly by new construction, the line was extended southward through Indian Territory, being aided by large land grants, aggregating one million acres, in Kansas and Indian Territory. In 1880, then operating 879 miles, it came under the Gould influence, and was leased to the Missouri Pacific. The result was disastrous to the road, it being managed for the benefit of the lessor company. A large floating debt was run up, maintenance neglected, and the property reduced to a deplorable condition. In 1888 it defaulted its interest payments, and in the process of reorganization it escaped from the Gould domination.

Conditions required a drastic plan of reorganization, but this was not followed out. Practically no new capital was provided, and it was under this heavy handicap that the new management, under the presidency of Henry C. Rouse, undertook the upbuilding of the road. In ten years, 900 miles have been added to the system, and its lines now reach from St. Louis, Hannibal and Kansas City on the north, to San Antonio and Galveston on the south, with numerous branches. Much of the old track has been relaid, con-

siderable sums have been set aside from surplus for improvements, and in 1906 the road closed the most prosperous year of its existence.

The M., K. & T. has been a highly independent road, and has practically no affiliations with other systems. Up to 1904-5, the Rockefeller interests were supposed to be dominant in the road, John D. Rockefeller and William Rockefeller being included in its directorate, and Colgate Hoyt, associated in the Rockefeller interests, was for some time vice-president of the road. All of these three have disappeared from the directorate, which now includes no prominent representative of the Standard Oil interests.

Upon the death, in 1906, of Henry C. Rouse, long president and later chairman of the board, Adrian H. Joline, for some years general counsel of the Toledo & Southwestern, who came to the M., K. & T. as its general counsel, became chairman and later president of the road. In 1906 the directorate included Mr. Joline and five of the operating officers of the road: F. M. Finney, then president; A. A. Allen, vice-president and general manager; Charles C. Hedge, vice-president and treasurer; R. W. Maguire, comptroller, and James Hagerman, general counsel. The rest of the board was made up by Henry W. Poor, of H. W. Poor & Co., bankers, New York; A. J. Poor, of Chapman, Kansas; James Brown Potter, a New York lawyer and capitalist; ex-Governor Myron T. Herrick and Otto Miller, of Cleveland, Ohio; B. P. McDonald, Fort Scott, and E. B. Stevens, of Parsons, Kansas; H. J. de Marez Oyens, Amsterdam, Holland, and Alfred Waldron Smithers, London, England.

In 1905 the road reported 1,509 shareholders.

Capitalization.

On June 30th, 1906, the capital account stood as follows:

Common stock	$ 63,300,300
Preferred stock	13,000,000
Other stock	3,922,500
Total	$ 80,222,800
Mortgage bonds	104,234,000
Equipment bonds	240,732
Nominal capital	$ 184,697,532
Rentals capital at 4%	11,487,500
Approximate capital	$ 196,185,032

Approximate capitalization per mile....	$64,470
Miles operated......................	3,043
Net earnings on net capital............	3.3%
Stock on net capital..................	41%
Fixed charges on total net income.....	75%
Factor of safety.....................	25%

In the estimate of capitalization the company's treasury holdings are too small to be considered. It will be seen that the estimated capitalization per mile is high for a "prairie road." Its $64,470 per mile compares with $30,725 per mile for the Missouri Pacific, and with $46.710 per mile for the St. Louis & San Francisco, occupying much the same territory.

The high capitalization is further reflected in the showing of the net earnings on the estimated capitalization, amounting to only 3.3%. This figure stands against 7.7% for the Missouri Pacific, and against 4.8% for the St. Louis & San Francisco. Moreover, the heavy capitalization of the road is not represented in the form of harmless stock; but bonded debt is high, and the stock represents only 41% of the estimated capitalization of the road.

The burden under which the road has struggled so long is still further reflected in the relation of fixed charges to the total net income. Fixed charges for a long time practically consumed all of the earnings of the road, and even in the unusually prosperous year of 1906, required 75% of the total net income.

The nominal factor of safety on the securities of the road, even in the exceptional year of 1906, amounted to only 25%.

The company has practically no holdings in other companies, and therefore has no outside equities to add to its assets.

Increase of Capitalization.

In six years the total capital increased 27%, and the gross earnings 70%, a very substantial difference, indicating steady progress towards better conditions. The items of increase were as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1900	$55,181,000	$13,000,000 3,012,500	$73,523,000	$144,716,500	$12,626,511
1906	63,300,300	13,000,000 3,922,500	104,234,000 240,732	184,097,532	21,159,144

Character of Traffic.

The most considerable item in the traffic of the road is coal, which in 1906 amounted to over one-quarter of the total tonnage; lumber made up 10%, farm products and animals about 30%, manufactures, 18%. Of farm products, cotton made up only 4½% of the gross.

Passenger earnings contributed 25% of the gross earnings of the road.

It will be seen that the traffic is widely distributed, and reflects the varied character of the territory of the road.

Stability of Earnings.

As the table reveals, the gross earnings have about doubled in ten years, while the mileage operated has increasel only 50%. The result has been an increase in the gross earnings per mile from $5,140 to $6,953. The new mileage has tended to reduce the average earnings per mile from 1901 to 1906.

Year	Miles Operated	Gross Earnings	Per Mile
1895–6	2,147	$11,036,987	$5,140
1896–7	2,197	11,478,315	5,224
1897–8	2,197	12,047,237	5,483
1898–9	2,200	11,930,334	5,424
1899–0	2,218	12,626,512	5,692
1900–1	2,265	15,403,083	6,800
1901–2	2,500	16,391,400	6,556
1902–3	2,601	17,208,193	6,616
1903–4	2,884	17,766,595	6,160
1904–5	3,043	20,041,095	6,586
1905–6	3,043	21,159,144	6,953

Maintenance.

The efforts of the management of the road have been to bring it up to a much higher standard of efficiency, and in pursuance of this policy, the maintenance charges have been as heavy as the earnings of the road would justify. The items are as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	576,023	$1,243	$601	$1,844
1901–2	558,684	1,058	599	1,657
1902–3	531,477	1,068	634	1,702
1903–4	426,431	733	559	1,492
1904–5	418,385	1,197	632	1,829
1905–6	460,359	1,231	671	1,902
Average	495,226	$1,121	$616	$1,737

St. L. & S. F.	448,625	814	703	1,517
St. L. S. W...	408,066	1,023	674	1,697
K. C. Sou.....	837,406	961	1,156	2,117
Atchison......	577,005	1,123	1,113	2,236

The average of $1,100 per mile for maintenance of way on a road with a traffic density of 495,000 ton-mile per mile of road reflects this policy. The average of $616 per mile for maintenance of equipment is rather low, but in addition to the regular maintenance, the following amounts have been appropriated from surplus earnings for new equipment:

1902-3	$1,160,800
1903-4	1,353,900
1904-5	1,238,200
1905-6	594,700
	$4,347,600

The report does not specify the separate items of repairs, but during the year the road added thirty new locomotives and 2,200 new freight cars. These, however, were not paid for from earnings.

Surplus Earnings.

The surplus shown has steadily increased, so that in 1906 a 2% dividend for the half year was paid on the preferred stock, the beginning, it is hoped, of steady dividends to the full 4% the stock is entitled to. It is to be noted, however, that had the same sums been set aside for new equipment from earnings as in the three preceding years, the full dividend on the preferred could not have been paid. In the table below the per cent. of earnings is shown on the preferred stock, and before any payment has been made for equipment appropriations. After deducting $594,000 from the surplus, the percentage earned on preferred in 1906 was only 8.1%.

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Preferred
1900–1	$799,916	....	6.1
1901–2	908,940	....	6.9
1902–3	1,099,916	....	8.4
1903–4	1,066,368	....	8.2
1904–5	1,267,191	....	9.7
1905–6	1,653,087	4	12.7

In 1906 and in the three years preceding, before any deductions were made the surplus showed about 1% annually on the common stock, over and above the full 4% dividend on the preferred.

The Balance Sheet.

At the close of the fiscal year of 1906, the balance sheet showed:

Current assets of......................	$4,091,969
Current liabilities of..................	1,957,378
Leaving a working balance of...........	$2,134,591

In addition to the items of current liabilities, there were taxes and interest accrued, but not due, amounting to $1,631,806.

The amount to credit of profit and loss was $1,739,314.

Investment Value.

In anticipation of a dividend, M., K. & T. preferred sold up to $69 per share in 1902, declining, however, to $32 in 1904. It rose to $74 in January, 1906, which is the highest figure it has yet reached.

It has already been noted that the first semi-annual dividend of 2¾% on the preferred, paid in 1906, was more or less at the expense of a reduction of the amounts previously appropriated for new equipment. It is this fact probably which accounts for the failure of the stock to rise to a higher figure upon the beginning of dividends. If, however, the earnings of the road should continue to increase in the same favorable ratio as in the last five years, the margin of safety for the dividends on this stock would be steadily enlarged, and even at the highest figures of 1906 would represent a fairly attractive investment. If, however, on a surplus showing not greatly inferior to that of 1906, the stock could sell off in the general decline of 1903-4 to $32 per share, it is not unreasonable to suppose that should another decline come, it would go much below the high figures of 1906.

Reviewing the steady progress of the road, considering its excellent management, and the rapidly developing resources of its territory, and especially of the new state of Oklahoma, the far sighted investor will probably conclude that if purchased on recessions and put away, the stock should yield a handsome profit in a few years. Nothing apparently but a decline in prosperity over the whole country, could materially affect the earning power of the

road. The payment of the equipment trusts through the issue of bonds will eventually effect a considerable saving to the road, and should contribute to the safety of the dividend on the preferred.

The amount of the preferred stock is small, while that of the common is comparatively large. A surplus, therefore, which would represent a very considerable degree of safety for the preferred dividend would not readily lend itself to the payment of a dividend on the common. Moreover, if the conservative policy of the road, in returning a considerable portion of the surplus towards betterments, should be continued, it would be some time before a dividend on the common should reasonably be expected.

It may be taken, therefore, that the common stock is of value only for a long pull investment; but, on the other hand, M., K. & T. is one of the "low-priced" stocks, which, like the Denver & Rio Grande, the Erie and others, fluctuate within wide limits, according to the general conditions of the money market. For example, in 1901-2 it sold up to $35 per share, slumping off to less than $15 in 1904. It was run up to $40 per share in the general rise of 1906. To all practical intents it has had as much value in one year as in another. If on a general decline it should sell down to anything like the figures of 1903-4, that is to say, below $20 a share, it would undoubtedly present an attractive speculation, and unless there were a very long depression like that of 1893-7, it would probably rise again with the general improvement of the market. Bought as an investment at something like these figures, and held for a number of years, it would probably show a good profit to its holder; but as an investment without regard to the eccentricities of the stock market, it would probably be generally regarded as inferior to the preferred.

MISSOURI PACIFIC RAILWAY.

The Missouri Pacific is the chief of the Gould railways and the head of the vast system of lines which gridirons the interior southwest lying between the Mississippi and the Rockies, and extending into Colorado and to the Great Salt Lake.

The Missouri Pacific operates directly over six thousand miles of railroad, the make-up of the main "Gould Systems" standing as follows:

	Miles.
Missouri Pacific	6,276
St. Louis Southwestern	1,452
Texas & Pacific	1,826
International & Great Northern	1,160
Denver & Rio Grande	2,477
Rio Grande Southern	180
Total miles	13,371

To these may be added the Wabash and the Wabash & Pittsburg Terminal, the Wheeling & Lake Erie, and the Western Maryland, with 3,600 miles more, which brings the total of Gould mileage up to nearly 17,000 miles. With the completion of the Western Pacific, the total will reach over 18,000 miles. The Gould lines comprise one of the five largest systems in the country under practically single control, and when the Western Pacific is completed they will make up the only transcontinental line in the United States under practically one ownership.

History.

The present company was the consolidation in 1880 of the Missouri Pacific and several minor roads. The original line, the Pacific Railway of Missouri, was chartered as far back as 1849, to build from St. Louis to Kansas City, receiving an advance from the state of seven million dollars, in addition to a land grant of about sixteen hundred thousand acres. The line was not completed to Kansas City until 1865. In 1876 the road was sold under foreclosure and came under the control of Gould interests and has since so

remained. In 1881 the Missouri Pacific practically absorbed the St. Louis, Iron Mountain & Southern, and for a time operated the Missouri, Kansas & Texas, the Texas & Pacific and other roads under leases, these leases being afterwards surrendered. In 1892 complete control of the International & Great Northern was secured, and of the Central Branch of the Union Pacific in 1898-9, the latter road being now operated as a part of the Missouri Pacific system. In 1901 a large interest in the Denver & Rio Grande was acquired, sufficient, with the Rockefeller holdings, it is understood, to ensure control of that property.

The peculiarity of the company is that the Missouri Pacific proper is a minor part of the system, the latter contributing only fifteen millions of the gross earnings as against over twenty-one millions for the St. Louis & Iron Mountain, the balance of the gross being supplied by branch lines, of which the chief is the Kansas & Colorado Pacific.

The Missouri Pacific and branch lines extend from St. Louis westerly to Pueblo in Colorado, where they join the Rio Grande with a network of branching lines in eastern Kansas and western Missouri. The Iron Mountain lines lead southerly from St. Louis to Texarkana in Texas, and Alexandria in Louisiana, at both of which points they join the Texas & Pacific. Throughout the most of its length the Iron Mountain nearly parallels the St. Louis & Southwestern.

The "watergrade" line from St. Louis to New Orleans (in connection with the Texas & Pacific) was completed in 1906.

Ownership.

The directing head of the Gould lines and president of the Missouri Pacific, the Texas & Pacific and other lines is George Jay Gould, and Gould interests control the property absolutely. The directorate of 1906 was made up of George Jay Gould, Frank Jay Gould, vice-president, Edwin Gould, president of the St. Louis Southwestern; Howard Gould and Charles S. Clarke, vice-president, St. Louis, Mo., directly representing the Gould interests.

The Rockefeller interests were represented by Frederick T. Gates. John D. Rockefeller, Jr., having retired from the directorate in 1905, his place was taken by James Henry Smith, of New York, one of the chief owners of the St. Paul, and representative of the George Smith Estate. The other directors were: Samuel Sloan, formerly president and now chairman of the board of man-

agers of the Lackawanna; S. Davies Warfield, of Baltimore; W. K. Bixby, and O. L. Garrison, of St. Louis, and James H. Hyde, representing the Hyde estate of New York.

The executive committee was made up of George, Frank and Edwin Gould, F. T. Gates, James Henry Smith, Samuel Sloan and S. Davies Warfield. In 1907, Stuyvesant Fish, late president of the Illinois Central, entered the board and the executive committee, taking the place of J. H. Smith, deceased.

The St. Louis & Iron Mountain, of which the Missouri Pacific owns practically all of the capital stock, has a separate directorate made up entirely in the Gould interest. The same is true of the Central Branch Railway.

The stock of the Missouri Pacific is not widely held, the road reporting in 1905 only 1,861 stockholders, as against 17,500 for the Atchison, and 14,000 for the Union Pacific.

Capitalization.

The Missouri Pacific reports are exceptionally full in some regards, quite unsatisfactory in others, in particular the exhibit as to the income account. Some six millions of gross earnings on the "Branch Lines," are not itemized; and against it, it is difficult to segregate the stocks and bonds of the roads reported in the earnings of the "system." Deducting from the book value of securities owned by all the component companies, the stocks of the Iron Mountain and the Central Branch, the capital account, June 30th, 1906, stood about as follows (The net amount paid for rentals of leased lines, after deducting rentals received, was very small, and need not be taken into consideration):

Capital stock	$ 77,817,875
St. L., I. M. & S. (balance outstanding)	51,973
Funded Debt—	
Missouri Pacific	85,012,000
St. L., I. M. & S.................	97,873,304
Central Branch	5,959,000
Leased Lines....................	4,012,000
Equipment obligations (total).....	12,906,000
Gross capital	$283,632,152
Securities held (including St. L. & I. M. S. holdings)....................	84,801,285
Approximate net capital	$198,830,867

Approximate net capital. per mile......	$30,725
Average miles operated..............	6,276
Net earnings on net capitalization.....	7.7%
Stock on net capitalization............	39%
Fixed charges on total net income.....	60%
Factor of Safety....................	40%

It will be seen that the gross capitalization of the Missouri Pacific system amounts to about $45,000 per mile, but both the Missouri Pacific proper and the St. Louis & Iron Mountain hold large quantities of securities carried on the books at a cost of $136,-000,000. From this may be deducted $7,585,000 par value of the stock of the Central Branch Railway; and the Iron Mountain stock of $44,000,000 par value, originally exchanged in 1881 on the basis of three shares of Missouri Pacific stock for four shares of the Iron Mountain. The Iron Mountain earned in 1906 over 9% on its capital stock, practically all of which was turned into the treasury of the Missouri Pacific. This stock is therefore a valuable asset and is probably carried upon the books at below its market worth.

On the other securities owned by the two companies, there were received over $3,500,000 in dividends and interest in 1906, which, on the balance of $84,801,285, nominal book value of these securities after deducting the par value of the two stocks noted, amounted to well over 4%. These large holdings therefore are apparently well worth the amount at which they are carried on the books of the company, and may legitimately be deducted from the gross capitalization of the system.

When these deductions are made it will be seen that the capitalization of the system per mile is comparatively low, amounting to only $30,725, comparing with a similar estimate of $64,470 per mile for the M., K. & T., of $58,887 per mile for the Atchison, and $46,-710 per mile for the St. Louis & San Francisco, companies occupying very much the same sort of territory as the Missouri Pacific. The fact as to this low capitalization is directly contrary to the general impression, which regards the Gould roads as usually much over-capitalized.

On this estimate of net capitalization, the net earnings of the system represented 7.7%, as against similar estimates of 3.3% for the M., K. & T., 5.9% for the Atchison, and 4.8% for the St. Louis & San Francisco.

Of the estimated net capitalization the stock of the Missouri Pacific represents a little over one-half, and of the total net income

derived from the operation of the combined roads, 60% is consumed by fixed charges, indicating a generally high rate of interest on the bonded debt. The factor of safety for all the underlying securities of the system would on this estimate be 40%.

Equities Owned.

Aside from the $44,000,000 of Iron Mountain stock already discussed, the most valuable single asset held in the treasury of the two companies is $23,668,000 par value of the second mortgage income bonds of the Texas & Pacific Railway, on which the holding roads received, in 1906, the full 5% to which the bonds were entitled.

These bonds were exchanged for an equivalent of 65% of the St. Louis & Iron Mountain gold bonds, so that the Iron Mountain is paying 4% and receiving the equivalent of 7½%, which, if the rate of payment can be maintained, would add 50% to the cost valuation of these bonds.

All the stock of the Central Branch Railway, amounting to $7,585,000, is held by the Missouri Pacific, and from this road the Missouri Pacific received, in 1906, in dividends, $1,061,900. This was, however, a payment from surplus, and the net surplus available for dividend over all fixed charges shown by the Central Branch in 1906 was $1,402,000, equivalent to 5% on the face value of the stock. The other items of income were widely distributed over a mass of securities which are listed in full in the report, but not itemized as to their cost, save as to total. Practically all the earnings to which these stocks are entitled are received by the holding companies, so that the latter have no extensive equities unrealized.

On the Denver stock, 5% is paid on the $7,300,000 par value of the preferred, making the average return on the purchase a little over 2½%, but in view of the prosperity of the road there should be some increment in value over the cost price.

Increase of Capitalization.

Since 1900 both stock and funded debt have increased about 50%. In the same period gross earnings have increased only 46%. A considerable part of the increase both in stock and bonds has been applied to the purchase of the securities of other roads, as the Denver and Wabash stocks and the Wabash debentures, so that in reality the gross earnings of the system have increased more than the net increase of the capitalization. The items stand as follows:

Year	Common Stock	Funded Debt (System)	Total Capital	Gross Earnings
1900........	$50,432,150	$138,539,556	$188,771,706	$30,511,313
1906........	77,817,875	205,862,505	283,680,380	44,566,821

Increase over six years: Total capital, 50%; gross earnings, 46%.

Of this increase about $31,000,000 was represented by the sale of $6,000,000 of 5% two-year notes in 1904, and, in 1905, of $25,-000,000 of new 4% forty-year gold bonds, covered by a deposit with the trustees of $25,000,000 of the capital stock of the Iron Mountain. These issues were for the purchase of additional terminal properties and to acquire and construct 677 miles of railway, mainly towards the completion of the low grade line from St. Louis to New Orleans.

The construction of this line should prove a great advantage to the road, and forms part of that added competition which the Gulf lines are showing towards the eastern trunk lines in securing grain and other traffic from the Middle West.

Character of Traffic.

The Missouri Pacific does not itemize its freight tonnage, but the report for 1906 shows that the average rate per ton-mile was slightly below the average rate for the previous year. At least a part of this may be ascribed to the low grain rates to Gulf ports which the Missouri Pacific made in the grain moving season of 1905-6. This apparently did not turn out to be a satisfactory move, for the roads were otherwise well supplied with tonnage, and it is possible, had these rates not been made, the earnings for the year of 1906 would have been higher.

Stability of Earnings.

Through a series of years the earnings of the system have shown as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896..............	4,938	$22,011,961	$4,457
1897..............	4,938	24,805,451	5,023
1898..............	4,938	26,744,823	5,417
1899..............	4,938	28,079,820	5,281
1900..............	4,938	30,511,313	6,179
1901..............	5,555	36,661,094	6,600
1902..............	5,613	37,495,688	6,680
1903..............	5,846	43,095,769	7,372
1904..............	6,140	43,693,617	7,116
1904–5............	6,204	41,067,282	6,618
1905–6............	6,276	44,566,821	7,101

It will be seen that in the ten and a half years under view, the mileage has increased about 25%, while the gross earnings have doubled. The earnings per mile have increased about 60%. In the above table the earnings are given both for the calendar year of 1904 and for the fiscal year of 1904-5, the road's fiscal year having been changed within this period. It will be seen that the earnings for 1904-5 showed some decrease for the earnings for the calendar year of 1904, due in part to the decline in traffic from the business of the year of the World's Fair at St. Louis.

The earnings for 1905-6 showed a considerable increase over the previous fiscal year, however, and this occurred with but a very slight increase in the cost of conducting transportation; a fact which occasioned some unfavorable comment and inquiry as to how this apparently anomalous result could be brought about. It will be seen further that the earnings per mile reached their maximum in the year of 1903, so that the extensions since that year have tended to reduce rather than raise the average earnings per operated mile.

It may be noted further that the earnings per mile on the Missouri Pacific have shown nothing like the increase which has been shown, for example, by the Atchison, where the mileage earnings practically doubled within the period named.

Maintenance.

Up to the report issued in 1906 no itemization had been made in the expense account of the Missouri Pacific system, but in the 1906 report these items were shown both for the year of 1906 and the previous year. They were as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1905.........	578,823	$782	$722	$1,504
1906.........	668,791	856	921	1,777
Average....	623,807	$869	$821	$1,690
Atch. (2 y. av.)	631,700	1,424	1,294	2,718
M. K. & T. "	439,300	1,214	651	1,865
St.L & S.F. "	426,254	756	725	1,481
Burlington "	652,198	1,148	1,318	2,466

Comparison for the same two years is introduced from competing lines; these show that with less earnings per mile and not more than two-thirds of the traffic density, the total maintenance

charges of the M., K. & T. were more than $200 per mile in excess of those of the Missouri Pacific. Again, with about the same traffic density, but considerably higher mileage earnings, the total maintenance charges on the Atchison were more than one thousand dollars per mile higher in these two years than the Missouri Pacific's. The Missouri, Kansas & Texas has been heavily handicapped by heavy charges and lack of capital, and its charges were low. It is anomalous that with 30% less traffic density its charges should still have been higher than the Missouri Pacific's.

A better comparison may be made with the Atchison. Its traffic density was about the same as the Missouri Pacific's, but its mileage earnings were considerably higher. Had the Missouri Pacific expended the same amounts for maintenance as the Atchison on an equal basis of mileage earnings, this would have added nearly $500 per mile to the Missouri Pacific's charges, and this on the 6,276 miles of railroad would have increased these charges by about $3,100,000, or about 30%. The $6,309,000 of surplus shown by the Missouri Pacific system for 1906 would have been cut down nearly by half. Instead of showing a surplus equal to 8.1% on the capital stock, the road would have shown only about 4%, or an amount insufficient to meet the 5% dividend.

Improvements.

Moreover, while the Atchison has been steadily setting aside from its surplus, sums for improvements, amounting in six years to nearly $16,000,000, the only sums set aside from surplus by the Missouri Pacific in the same period have been as follows:

1901	$ 2,608,657
1902	2,615,871
1903	1,249,672
Total	$ 6,474,200

The report for 1906 shows no such sums devoted in the fiscal years of 1905 or 1906.

In 1906 Atchison common was put upon a 5% basis, the same as the Missouri Pacific's basis. In estimating the value of the two stocks the investor therefore will take into consideration that where the Atchison has shown heavy maintenance charges and large sums for improvements, the Missouri Pacific has shown maintenance of $1,000 a year less, with about the same traffic density, and set aside

very small sums for improvements. It is probably the same fact which explains in part why the Atchison's earnings have increased so much more rapidly per mile than the Missouri Pacific's. follows:

Surplus Earnings.

The surplus shown for each year since 1900 has been as

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900	$3,779,020	4.9	—	55
1901	7,478,523	9.7	2½	96
1902	6,544,622	8.4	5	106
1903	7,586,493	9.7	5	100
1904	5,925,634	7.6	5	99
1904–5	5,432,177	6.9	5	95
1905–6	6,329,014	8.1	5	96

In the above table it will be seen that both the calendar year for 1904 and the fiscal year of 1904-5 are shown.

While, on the surplus shown, the earnings of the Missouri Pacific have been sufficient comfortably to pay the 5% dividend on the stock, this showing has, as has already been explained, been reached by means of maintenance charges considerably below other prosperous roads in much the same territory.

Dividend Record.

In the old days of the Jay Gould management, and in the flush years of the eighties, 6% and 7% dividends were paid, these declining to 3% in 1891 and totally disappearing through eight years up to 1900. The full dividend record has been as follows:

	Per cent.		Per cent.
1880	1½	1889–0	4
1881	6	1891	3
1882	6¼	1892–00	—
1883–7	7	1901	2½
1888	5¼	1902–6	5

The Balance Sheet.

The balance sheet of the Missouri Pacific Railway at the close of the fiscal year of 1906, not including supplies and materials on hand, stood as follows:

Current assets:

Cash	$4,365,984
Discount fund on bonds sold	2,559,166
Sundry accounts	4,191,725
Due from St. L. I. M. Ry Co	936,300
Total	$12,053,175
Current liabilities	7,145,918
Leaving a working balance of	$ 4,907,257

The balance sheet of the St. Louis, Iron Mountain & Southern Railway, shown separately, showed as follows:

Current assets:

Discount fund on bonds sold	$ 3,200,985
Land grant accounts	5,322,206
Cash	743,327
Sundry accounts	406,181
Total	$ 9,672,699
Current liabilities	2,653,524
Leaving a working balance of	$ 7,019,175

The amount to the credit of profit and loss, itemized as Net Income, was on the Missouri Pacific Company, $6,455,423, and on the St. Louis, Iron Mountain & Southern, $7,788,022, which, with a small similar balance for the Central Branch Railway, make up a total credit to profit and loss of $14,527,740 for the system.

Investment Value.

The securities of the Missouri Pacific have undoubtedly suffered from the incomplete character of the reports of the road and the inability of the public to gain any clear insight into the operations of the system. In the report for 1906 a very commendable effort was made to meet the present day demands for publicity by a full and complete statement of the road's affairs. The full bonded indebtedness of the system is shown, the items of securities held is illustrated, and the operating expenses given in detail, yet there are sundry items, such as the character of the traffic, the average freight rate per ton mile, the average number of tons per car, the average train load and similar items, which are not given, though

some of them may be laboriously computed from the figures presented.

Added to this previous lack of frankness has been the recent heavy issue of new securities, which always tends to depress the price of a stock, and undoubtedly some of the old-time prejudices against Gould securities still survive.

This prejudice, at least on any of the old-time basis, is certainly undeserved. The present Gould policy is one of steady upbuilding and conservative growth. It could have been in large part removed by greater frankness towards the public, and the step which has been taken in the reports for 1906 has gone far to dissipate it.

On the other hand, it is evident that the Missouri Pacific has not been handled with the same energy, nor with such satisfactory results, as, for example, a road like the Atchison. It is true that the latter is a through road, having its own line to the Pacific, and when the Western Pacific division of the Gould system is completed a large extension of business may ensue. But the mileage of the Gould lines is already one of the most extensive in the Union, and with the purchase of the Western Maryland, already covers three-quarters of the distance from the Atlantic to the Pacific. With such enormous freight gathering facilities it is not entirely clear why the Missouri Pacific should not have enjoyed the same degree of prosperity as the Atchison, the Union Pacific and similar lines.

It is clear from the preceding analysis that the net capitalization of the Missouri Pacific system, even with the addition of new roads, is still far below that of most of its competitors, yet on a 5% basis, even in the tremendous year of 1906, with solid railway securities selling in general on about a 3½% basis, the stock of the road rose above par only for a short period, and in the very moderate decline in the spring, declined to $85 per share. In the huge rise of prices in 1902 the stock was carried to $125, and even in the prolonged slump of 1903-4 it declined only to $85. At the same time the stock of the Atchison went as low as $54, and of the Union Pacific as low as $65. In 1906 Atchison rose to $110, and the Union Pacific, though by methods which excited much criticism, was put up to $195. At the same time the highest point touched by Missouri Pacific was $106, in the great rise of January in the same year.

The suspicion and distrust inevitably suggested by secrecy have no longer a basis, and the Missouri Pacific may now be judged on its merits, along with other roads. After meeting unusually heavy

maintenance charges, caused in part by floods and washouts, Atchison was able to show about 9% of surplus on its common stock, over and above the preferred dividends for the five years from 1902. In the same period the Missouri Pacific showed an average surplus of 8% on its capital stock; but had the maintenance charges been on the Atchison basis, the earnings per mile, compared, this nominal surplus would have been very considerably reduced, probably to an average of not more than 5%.

In other words, had the Missouri Pacific's maintenance been equally as liberal as the Atchison's, earnings compared, the Atchison could have paid a 6% dividend and shown a rather larger percentage of net surplus after dividends than could the Missouri Pacific after paying 4% dividends. In 1906 the net surplus, after dividends shown by the Atchison of 5% on both the common and the preferred, was equivalent to 6.8% on the common stock, while the surplus shown by the Missouri Pacific, after a 5% dividend, was equivalent to 3.1% on the common stock; and this surplus would have been practically wiped out with maintenance charges on a scale similar to the Atchison's.

The year of 1906 and the immediately preceding years have been for the Southwest, years of unexampled prosperity, amounting in many sections to a tremendous boom. In times past booms have been invariably succeeded by years of depression. Should such a depression come, it is evident from the foregoing that where the Atchison should be able comfortably to maintain its 5% dividends, it is more likely that the dividend of the Missouri Pacific would have to be reduced, for the Atchison has a wide margin of heavy maintenance charges which could be scaled in case of necessity, while the Missouri Pacific has not.

Over against this is to be set, first, the extension of the Gould system westward to the Pacific, and, second, the completion of the low grade line from St. Louis to New Orleans, and the very considerable increase of business which should be derived from these two sources. The Missouri Pacific has been upon a 5% basis now for five years, and, as a matter of policy as well as of pride, every effort should be made to maintain this basis even in less prosperous times, and should the new lines produce the business that is expected of them, this undoubtedly could be done. In 1906 the system carried to the credit of profit and loss, over and above its dividend, $2,438,000. Of this, about $600,000 was a distribution of the surplus of the Central Branch Lines over and above its net earnings for the year, leaving a net surplus over this special dividend of about

$1,800,000. The road was in excellent condition as to working capital, and its total profit and loss balance was high.

From all this the investor is likely to conclude that Missouri Pacific may be held to a 5% basis unless a prolonged period of depression ensues. But he will probably conclude also that the margin for this dividend is none too wide, and that it does not present the same degree of security as many other 5% stocks.

For these reasons it seems doubtful, should high rates for money such as obtained in 1906 continue, that Missouri Pacific would sell very much above par, and on a general slump in the market it might sell considerably below. If the stock could sell down to $85 per share on so slight a general recession as that of 1906, it should sell somewhat lower on a more general decline. At $83 per share the stock would yield 6%. Purchased at something like these figures or better, it would yield a rate of interest commensurate with the risk involved, with a large probability that the earnings of the road will be maintained or increased from its added sources of business, even in less prosperous years. The speculative investor, gambling for a rise rather than considering safe investments, will consider the fact that Gould securities do not enjoy the same degree of public favor as many others; and likewise that this prejudice against them is likely to disappear with the more ready access to the operations of the company which is now obtainable.

MOBILE AND OHIO RAILROAD.

Though operated separately, nearly all the stock of the Mobile & Ohio is owned by the Southern Railway, and it is, to all intents, a part of the Southern Railway system. The line extends from St. Louis to Mobile, and in 1906 it operated 926 miles. The gross earnings for 1906 were $9,445,927, or $10,200 per mile.

Appropriations for equipment for 1906 were $1,417 per mile for way and $1,236 for equipment, a total of $2,653. The proportion of income expended for maintenance has not varied greatly in a number of years. The freight traffic density for 1906 was 1,204,011 ton miles, and on a line of this character it may be assumed that the maintenance has been entirely adequate.

On the basis of this maintenance, the company showed a total net income of $3,204,991, the fixed charges consuming 62% of this, leaving an ample margin of safety for the interest on the underlying securities. There remained a surplus of $1,209,818, equivalent to 20% on the outstanding capital stock of $6,070,600. The dividend for the calendar year of 1905 was 6%, and for the calendar year of 1906 it was 5½%. It is evident from this that the Southern Railway has an equity of some value in the undistributed surplus. If the surplus shown were evenly divided between dividends and improvements, this equity was in the neighborhood of $250,000 for the year of 1906.

As of June 30th, 1906, the Southern Railway owned $5,670,200 of the $6,070,600 stock outstanding, and likewise $8,035,000 of the $9,472,000 general mortgage 4% bonds. The purchase of the latter securities was made owing to the fact that voting power on $4, 984,200 of the stock is exercised by the general mortgage bond holders, by virtue of the deposit in trust under the general mortgage of the old debentures of 1879.

In 1906 the Mobile & Ohio owned practically all of the stock of the St. Louis & Cairo Railroad, issuing therefor $2,500,000 of collateral 4% bonds. The St. Louis & Cairo—159 miles—is leased by the Mobile & Ohio.

NASHVILLE, CHATTANOOGA AND ST. LOUIS RAILWAY.

The Nashville, Chattanooga & St. Louis is a subsidiary of the Louisville & Nashville, although separately operated. Of its $10,000,000 outstanding stock $7,177,600, or 71%, is owned by the Louisville & Nashville. In 1906 it operated 1,226 miles, including the Paducah & Memphis, leased from the Louisville & Nashville; its mileage has changed very little in several years. On earnings of $9,071 per mile it is capitalized for a total of $21,222 per mile, not capitalizing the $624,862 paid in rentals.

The fixed charges, including rentals, consumed only 45% of the total net income for 1906. For a number of years the maintenance charges have been very heavily loaded for improvements and additions, the excess maintenance ranging from $700 to $1,000 per mile per annum. In 1906 a separate item was made of these improvements, with the result that the surplus earned showed a large increase to a total of $2,243,413. Of this amount $1,289,421 was turned back into the road for permanent improvements.

The surplus shown before the deduction noted was equivalent to 22% on the capital stock of the road, and this represents somewhere near the normal, actual, annual earnings. Beginning with 1904, 4% was paid on the stock, this rate being raised to 5% in 1905 and 6% in 1907. Earning around 20% per year, and dividing this equally between dividends and improvements, the road is perfectly able to pay an annual 10% dividend, so that the Louisville & Nashville's equity in the undisturbed earnings was certainly equal to 4% on its holdings, or around $300,000 at the inside.

Belonging to so rich and so well managed a system as that of the Louisville & Nashville, and traversing a fine section of the country, the stock is probably as solid as any to be found anywhere. It may be assumed that with the results beginning to show from the heavy sums set aside from earnings for improvements, the dividend will be raised to a 7% or 8% basis, if not higher, should there be no heavy recession in business. The stock should be well worth that of the parent road, or at least from $120 to $150 per share, according to prevailing money rates.

NEW YORK CENTRAL AND HUDSON RIVER RAILROAD.

The New York Central & Hudson River Railroad divides with the Pennsylvania the distinction of being the most important railroad in the United States, although in point of gross earnings it comes after both the Pennsylvania and the Southern Pacific. It is the chief property of an interest controlling a larger mileage than any other system in this country, or, for that matter, in the world. It is the principal railway leading out of New York City, and it covers an important line of towns and cities the entire length of its route. It has, moreover, the only "water grade" between the seaboard, the Great Lakes and Chicago. Nevertheless, its tonnage, earnings and profits are considerably below those of its chief rival, the Pennsylvania. A comparison of the chief features of the two companies will be found under the analysis of the Pennsylvania road.

History.

The road represents the consolidation in 1869 of the Hudson River Railroad and the New York Central. The latter in its turn was the union of four small lines, extending from Albany to Buffalo. It is of some interest to note that this consolidation at the time aroused great opposition; also that the average time consumed in the journey from Albany to Buffalo before the consolidation was thirty hours. The fast express trains now cover the entire distance from New York to Buffalo in eight hours.

Since the original consolidation, the Central has also acquired the New York & Harlem line, the West Shore, and several subsidiary roads. It operates the Boston & Albany under lease, and owns the larger part of the stocks of the Lake Shore & Michigan Southern and the Michigan Central railroads. Through these it directly controls a total of over 12,000 miles of operated road.

Ownership.

The control of the New York Central was purchased by Commodore Vanderbilt in 1851, and the consolidation with the Hudson

River Railroad and other roads was carried out by him. The system has ever since been the proprietary interest of this family. Within the last few years the Standard Oil interest has also become prominent in the directorate, and its holdings are said to be heavy. In 1906 the Vanderbilt interests were represented in the directorate by William K. and Frederick W. Vanderbilt, Chauncey M. Depew (chairman), William H. Newman(president), H. McK. Twombly, Samuel F. Barger and Charles C. Clarke (former first vice-president). The Standard Oil interests were represented directly by William Rockefeller and James Stillman (president of the National City Bank), the First National Bank, by its president, George F. Baker, and by J. Pierpont Morgan, a director. The other directors were D. O. Mills (capitalist) and George S. Bowdoin.

The New York Central is the fourth most widely held railway stock of the country; the number of shareholders reported for 1905 was 11,782 against about 44,000 fo the Pennsylvania.

Affiliations.

It will be observed that no representatives of other lines are included in the Central's directorate, with the possible exception of Mr. Morgan. The latter is generally regarded as the dominating influence in the Erie Railroad, which is the Central's most direct competitor. The Central leases or controls directly, or through subsidiary companies, the following lines:

Boston & Albany,
Lake Shore & Michigan Southern.
Michigan Central (and Canada Southern),
New York, Chicago & St. Louis (Nickel Plate),
Cleveland, Cincinnati, Chicago & St. Louis (Big Four),
Peoria & Eastern,
Pittsburg & Lake Erie,
Lake Erie & Western,
Chicago, Indiana & Southern.
Toronto, Hamilton & Buffalo,
Rutland,
and a number of smaller lines.

In addition to these, the New York Central owns through the Lake Shore, one-half of a block of $60,000,000 out of a total of $140,000,000 of Reading stock, or sufficient to insure a working control of the latter. The other half is owned by the Baltimore &

Ohio, and the B. & O. in its turn is controlled by the Pennsylvania and Union Pacific. The Reading, again, controls the Central of New Jersey. Through the Lake Shore, the New York Central has large interests in the Lehigh Valley, and is directly represented in the directorate of that road by H. McK. Twombly and George F. Baker. Messrs. Baker, Twombly, F. W. Vanderbilt, William Rockefeller and James Stillman, all in the New York Central directorate, are also members of the Board of Managers of the Delaware & Lackawanna. Messrs. Twombly, D. O. Mills and George F. Baker are included in the Erie directorate. On the board of the Delaware & Hudson, and again of the New York, Ontario & Western, is Chauncey M. Depew. Messrs. Twombly, Rockefeller and Morgan are on the board of the New York, New Haven & Hartford, and the New York, Susquehanna & Western is owned by the Erie, so that there is no line in New York State, or running out of New York City, in which representatives of the New York Central are not included. This is part of the "community of interest" idea which has so effectively disposed of the disastrous rate wars of former days.

The present active head of the New York Central road is William K. Vanderbilt, who succeeded to that position on the death of his brother, Cornelius Vanderbilt II. Through him the latter day Vanderbilt policy has been rather accentuated, and its extreme conservatism has met with some unfavorable criticism in failing to meet the very aggressive tactics of the Cassatt regime in the Pennsylvania Railroad. At the present time, however, the Central is carrying out a vast scheme of improvements which will undoubtedly maintain for it its traditional position.

Capitalization.

The New York Central actually owns only 806 miles of road; it leases 2,620 miles, and the balance of the total of 3,784 miles is operated under contract or under trackage rights. In 1906 it paid as rentals of leased lines, mainly in the form of interest and dividends on guaranteed stocks and bonds, $9,501,170, as against $8,214,519 interest on its own funded debt. Capitalizing rentals on a 4% basis, this yields the sum of $237,529,250—a figure which is probably under the actual market value of the securities of the underlying roads. Adding this amount to the nominal capital shown, the capitalization of the road January 1st, 1907, stood as follows:

Common stock	$178,182,700
Funded debt	230,564,845
Total capital	$408,747,545
Rentals, capitalized at 4%	237,529,250
Approximate gross capitalization	$646,276,795
Securities held	180,129,254
Approximate net capitalization	$466,147,541
Approximate net capitalization per mile	$123,188
Average miles operated	3,784
Net earnings on net capital	5.8%
Stock on net capitalization	38%
Fixed charges on total net income	64%
Factor of Safety	36%

Style of Capitalization.

Nominally, the funded debt of the road is small—excluding the collateral bonds issued in exchange for the Lake Shore and the Michigan Central stocks, about $120,000,000. If, pursuant to the policy of this book, we capitalize rentals paid at the rate of 4%, this adds $237,500,000 of liabilities, giving a total of $347,500,000. This stands against $178,000,000 of outstanding stock at the close of 1906. Securities and advances deducted, the stock therefore represents 38% of the estimated net capitalization, as against 50% for the New Haven and 53% for the Pennsylvania. The total net income for 1906 was $34,843,810; fixed charges, including rentals and taxes, $22,267,904. Fixed charges consumed, therefore, 64% of the total available income. This is against 38% for the Pennsylvania, 38% for the Delaware & Lackawanna, 38% for the Lake Shore, and 56% for the New York and New Haven.

This would mean that the total income of the Central could decline approximately 36% before payments of its bonds, leases and guarantees became impaired. So, in a broad way, it may be said that these securities have a "factor of safety" of at least 36%. This compares with a similar estimate of a "factor of safety" on Pennsylvania securities of over 60%, and the same figure for the Lackawanna and Lake Shore.

The net earnings for 1906, including $1,308,760 charged to earnings for extraordinary improvements, represented 5.8% on the

$466,000,000 here estimated as the approximate net capitalization of the road. This percentage compares with a similar estimate of 8.1% for the Pennsylvania, 8.8% for the New Haven, 13.7% for the Lackawanna, about 10% (estimated) for the Michigan Central and 12.7% for the Lake Shore. It will be seen, therefore, that the New York Central is very highly capitalized, in comparison with the roads named. The general average for the country is 6%.

Equities Owned.

In 1906 the dividends on the Lake Shore were increased to 12%, and the Michigan Central's to 6%, so that the yield to the New York Central represents a handsome surplus over the interest paid on the bonds issued for the stock. In 1907 this excess of return aggregates $3,700,000. As a matter of fact, the New York Central's equity in these roads is considerably greater than this, since the operating expenses of these two lines have been systematically surcharged through a series of years, and the dividend returns on either of them might be further increased without in any way crippling the roads. All told, the New York Central might derive a surplus other than income from these sources of $5,000,000 or more, or about 3.7% on the outstanding stock as of January, 1907.

Increase of Capitalization.

The following shows the increase of nominal capital and earnings from 1900 to the close of 1906:

Year	Common Stock	Funded Debt	Total	Gross Earnings
1900.......	$115,000,000	$185,751,021	$300,751,021	$54,562,952
1906.......	178,182,700	230,564,845	408,746,545	92,089,768

Increase over six and a half years: Nominal capital, 36%; gross earnings, 70%.

In other words, the earnings increased twice as fast as did the capital employed. Yet this increase was not used to swell dividends, but put back into the road in heavier maintenance and improvements.

Character of Traffic.

The Central's reports show that the character of its traffic is well distributed, so that it is not vitally affected by depression in any especial industry. Its passenger traffic is heavy and yields 30% of the gross income. In its freight traffic the largest single item is coal

and coke (37%); farm products comprise 20%; manufactures and other tonnage the balance.

Stability of Earnings.

Since 1896 the Central's mileage has increased nearly 1,400 miles, or 58%, while gross earnings have more than doubled. The earnings have shown great stability, increasing very steadily, as the following table reveals:

Year	Average Miles Operated	Gross Earnings	Earnings per Mile
1896–7	2,395	$43,614,405	$18,210
1897–8	2,395	45,774,240	19,112
1898–9	2,395	46,184,657	19,285
1899–0	2,817	54,562,951	19,369
1900–1	3,223	66,333,111	20,581
1901–2	3,320	70,903,868	21,356
1902–3	3,424,	70,605,778	20,626
1903–4	3,490	77,682,221	22,258
1905	3,774	86,095,602	22,547
1906	3,784	92,089,768	24,336

Traffic Density and Maintenance.

Since 1900 traffic density and maintenance charges have compared as follows:

Year	Freight Traffic Density (Ton miles per mile of road)	Maintenance per Mile		Total
		Way	Equipment	
1900–1	2,049,919	$2,426	$2,430	$4,856
1900–2	1,929,995	2,590	2,792	5,382
1900–3	2,152,138	3,059	3,180	6,239
1900–4	1,988,206	2,891	3,255	6,146
1905	2,231,435	2,648	3,508	6,156
1906	2,226,046	2,832	3,850	6,682
Average	2,096,289	$2,741	$3,169	$5,910
Miles of extra main track, 2,037.				
Penn	4,130,690	3,752	5,232	8,984
Erie	2,434,819	1,861	3,216	5,077
Lackawanna	3,079,629	4,754	3,579	8,333
Leh. Val	2,771,846	2,588	3,429	6,017

On an increase in traffic of about 10% in six and a half years, maintenance increased 38%. But even this liberal maintenance does not adequately represent the solid policy of the road. Systematically through a series of years, considerable sums have annually been set aside from surplus earnings for special improvements, new equipment, etc., as follows:

1899-0	$ 2,000,000
1900-1	1,500,000
1901-2	1,750,000
1902-3	1,750,000
1903-4	2,207,000
1905	3,032,000
1906	4,108,260
Total	$16,347,260

This on 3,700 miles or more, average length of road, does not compare with the $22,456,624 set aside by the Lackawanna on less than 800 miles in six years, nor with the $63,652,929 devoted to the same purpose by the Pennsylvania since 1900.

Surplus Earnings.

It is evident enough from the following table that surplus has been pretty carefully adjusted to meet dividend requirements, the balance, as the preceding figures show, having gone back into improvement of the road. In the amounts shown below is included, however, sums charged to operating expenses for "extraordinary expenditures," and is the surplus shown before deducting the items given in the table preceding:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$7,742,183	6.7	5	141
1901–2	8,016,718	6.7	5	160
1902–3	8,724,304	6.5	5	159
1904	9,107,757	6.8	5	129
1905	10,258,569	7.7	5	154
1906	12,275,906	8.	5¼	139
Average		7.06	5%	147

Dividend Record.

The financial history of the Central is reflected in its dividend record, and that record is an enviable one. In the 36 years of its existence as a consolidated road (and for many years previously as separate lines) it has never defaulted a bond, and it has never passed a year without a dividend. This period covers two of the severest depressions that the United States has known, viz., 1873-7, and 1893-97—evidence that railroads in no wise differ from any other business, and that careful and intelligent management meets

with the same reward here as elsewhere. The following is the full record of the consolidated road:

Year.	Dividends Paid. %
1869-84	8
1885	3½
1886-89	4
1890-91	4½
1892	5¼
1893-94	5
1895	4¼
1896-99	4
1900-05	5
1906	5¼

In December, 1906, the stock was put on a 6% basis.

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current assets	$37,765,111
Current liabilities	18,894,077
Leaving a working balance of	$18,871,034

Asset items in suspense exceeded liabilities to lessor companies by about $1,400,000.

The amount of cash on hand was $6,993,638 and the balance to credit of profit and loss, $14,631,553.

Investment Value.

In 1900 the New York Central was restored to a 5% dividend basis after an interval of six years. It so remained until late in 1906, when, following the Union Pacific, the Pennsylvania and other lines, the dividend was increased to 6%. At the same time the dividends on the Lake Shore were increased from 8% to 12%, and on the Michigan Central from 4% to 6%. Both of these latter increases were amply justified and resulted in an addition of $754,820 in the other income of the New York Central for 1906. For the full year the increase would have been equal to about $2,150,000, or equivalent to considerably more than 1% on the entire amount of New York Central stock outstanding at the close of 1906. In other words, the Central simply drew from its equities in the earnings of these two subsidiary roads sufficient to increase its dividend by 1%.

Previous to this the income derived from the Central's ownership of these two roads was but little more than sufficient to pay the interest on the bonds issued in purchase of the two roads.

Compared with the Pennsylvania, however, it will be seen that the surplus remaining after dividend payments on the Central has generally been small, and the part of the surplus devoted to improvements nothing like the Pennsylvania's tradition of a dollar-for-dividends, a dollar-for-improvements. A careful examination of the reports indicates that the maintenance standard of the Pennsylvania is, if anything, higher than that of the New York Central. For example, in repairs of its locomotives in 1906 the Pennsylvania spent 9.4 cents per engine per mile, as against 9 cents on the Central, while the Pennsylvania spent in repairs apparently about 1.07 cents per freight car mile, as against about .70 cents on the Central. The higher earnings shown by the Pennsylvania, therefore, are not merely a matter of bookkeeping.

By comparison of the Central's range of price with that of its chief competitor, it will be seen that on a 5% basis it has sold in general at about the same level and in 1906 rather higher than the Pennsylvania on a basis of 6%. The reason for this is not very clear. The New York Central has very large equities in its subsidiary lines, but so has the Pennsylvania. It can be shown that the Lake Shore in 1906 earned around 23% ; but the Pennsylvania Company (operating the lines West) earned nearly 15%, and while the Lake Shore was put upon a 12% basis in order to provide for the Central's increased dividend, the Pennsylvania Company's dividend was raised only from 5% to 6%. The Pennsylvania's undistributed equities of 1907 should exceed those of the New York Central.

On as solid a basis of maintenance charges, the Pennsylvania showed about 50% higher surplus for its stock than the New York Central, and its dividend rate was 16% higher. It is true that the New York Central's earnings rest upon a broader and perhaps firmer basis; one-half of the Pennsylvania's enormous tonnage is coal and coke. This probably gives a larger sense of security to New York Central stock in the face of the fact that its showing of earnings is generally smaller. Then, too, there is undoubtedly a little sentiment; rich men like to hold New York Central stock; and they and others are apparently willing to average about 20% less from their holdings than if they were in Pennsylvania or in many other standard roads.

In June of 1907, six months after the dividend was raised to 6%, New York Central sold at $108¼ per share, the lowest since

1898. In November of 1901, on a 5% basis, it sold at $174 per share. The high point of 1902 was $168, the low of 1903, $112, and the high of 1906, $167. These are wide fluctuations in a stock of the Central's character, and presented large opportunities for profit to the investor who bought it at the low levels and sold it at the high.

The low price of 1907 was especially occasioned by a bad showing for the spring quarter, and by the difficulty which the Central, like other roads, found in raising new capital to carry on its improvements. Unless unfavorable conditions should continue, it is not improbable that, roughly speaking, these prices, $108-$174, might represent somewhere near the outside limits of fluctuation for several years to come. It is hardly likely that the marked increase in the earning power of invested capital will continue at the same rapid rate as it has in the past five years. The chances are rather that it will tend to decline somewhat. Only a change of management, therefore, would be likely to put the stock at a higher figure than those already noted.

Undoubtedly control of the Central would readily sell at a high figure. But the ownership of the road has not changed in more than half a century, and there seems little likelihood of a change in either management or policy now.

NEW YORK, CHICAGO AND ST. LOUIS RAILROAD COMPANY.

The "Nickel Plate," as it is familiarly known, was one of those mushroom lines, built to all intents for speculative purposes, like the West Shore, in the early eighties. The main object of the construction of the road apparently was simply to "hold up" the Vanderbilts. Whether or no the object was successful, it is certain at least that the Nickel Plate, like the West Shore, came under Vanderbilt ownership, and so remained.

The road was opened for operation in 1882. Fierce rate wars resulted in the bankruptcy of the road in 1886, and likewise in the cutting down of the Lake Shore's dividend of 8% in 1883 to nothing in 1885-6. The Nickel Plate was foreclosed in 1887, and the New York, Chicago & St. Louis Railroad succeeded the old company.

The road operates 523 miles from Buffalo to Chicago, absolutely paralleling the Lake Shore. It is, however, merely a single track line, and no attempt has been made to bring it up to the Lake Shore standard.

The Lake Shore Railroad holds $6,240,000 of the common, $2,503,000 of the first preferred, and $6,275,000 of the second preferred; that is to say, working control of the road. The directorate of 1906 included nine New York Central-Lake Shore directors, together with William H. Canniff, president of the road; John S. Kennedy, Ralph W. Hickox and W. Emlen Roosevelt. The Nickel Plate has no ownership in other stocks, and is simply a subsidiary line of the Lake Shore. The road, however, is operated independently.

Capitalization.

The Nickel Plate has practically no leased lines (9 miles), and its nominal capitalization is therefore its actual capitalization. This, on January 1st, 1907, was as follows:

Common stock	$14,000,000
First preferred stock	5,000,000

Second preferred stock	11,000,000
Total	$30,000,000
Bonds outstanding	19,397,000
Nominal capital	$49,397,000

Approximate capitalization per mile	$94,449
Miles operated	523
Net earnings on total capitalization	6.0%
Stock on net capitalization	60%
Fixed charges on total net income	41%
Factor of Safety	59%

Included under fixed charges was $140,053, paid as principal on car trusts.

The capitalization per mile, $94,449, is for a single track line, as compared with $78,987 per mile for the four-tracked Lake Shore. The Lake Shore is one of the best equipped and finest built railroads in the United States. It is easy to see, therefore, that the Nickel Plate is under the handicap of a highly inflated capitalization. It is not probable that the road ever cost, in the level country through which it runs, more than one-third of its capitalization.

Yet even with all this "water," the road's earnings are not as low as might be expected. In 1906 net earnings showed 6.0% on the capitalization, as against 5.8% on the New York Central and about 13% for the Lake Shore.

The capitalization is distributed in such a way as to forestall a second visit of the sheriff, the stock representing 60% of the total capitalization. Fixed charges consumed only 41% of the total net income, leaving a factor of safety for the interest on the securities of nearly 60%.

Increase of Capitalization.

Neither the stock nor the bonded indebtedness of the road has been materially changed since its reorganization up to the close of 1906. Probably in this regard the Nickel Plate is unique, for certainly there are few roads in the country which have remained for twenty years at the same level of capitalization. The road, however, has been prosperous latterly, and in 1906 $10,000,000 4% debentures were authorized, but not issued. The money so derived

was to be used to purchase 4,000 new cars, and this would enable the company to save considerable sums per annum for hire of equipment. There was a per diem mileage balance in the cost of transportation for 1906 of $304,711, a considerable sum for a road doing such a volume of business. It was equivalent to the hire of 2,800 cars through the year.

Character of Traffic.

The Nickel Plate does a very large business and is dependent upon no single interest for its prosperity. The largest single item in its tonnage was coal and coke. Even this amounted to less than 15%. Passenger earnings were comparatively very small, representing only 15% of the gross earnings. The Nickel Plate is practically a freight road with a very solid character of traffic.

Stability of Earnings.

With no increase in capital or mileage, the gross earnings of ten years have risen from five and a half million dollars in 1896 to nearly ten million dollars in 1905, increasing very evenly, as the following shows:

Year	Miles Operated	Gross Earnings	Per Mile
1896	523	$5,587,766	$10,693
1897	523	5,815,217	11,129
1898	523	6,391,421	12,220
1899	523	6,919,985	13,230
1900	523	7,023,358	13,428
1901	523	7,485,484	14,312
1902	523	7,138,899	13,649
1903	523	8,448,320	16,153
1904	523	8,645,374	16,528
1905	523	9,108,730	17,416
1906	523	9,902,208	18,933

Maintenance.

Previous to 1905, considerable sums for improvements had been charged to operating expenses. In 1905 these amounts for improvements were separately itemized, but they have been included in the figures for 1905 and 1906 in order to keep the comparisons for the seven years on the same basis. Under this arrangement the items appear as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900..........	2,313,905	$1,656	$1,255	$2,911
1901..........	2,561,082	1,716	1,718	3,434
1902..........	2,331,885	1,939	1,560	3,499
1903..........	2,504,699	2,197	2,296	4,493
1904..........	2,682,149	2,319	2,519	4,828
1905..........	2,774,606	2,429	2,459	4,889
1906..........	3,030,991	2,838	2,617	5,455
Average....	2,599,902	$2,156	$2,059	$4,215
Lake Shore...	3,102,376	4,308	4,093	8,401
Panhandle....	2,193,454	2,567	3,680	6,247
Wabash......	880,032	1,332	1,370	2,702

It will be seen from the above that the traffic density of the road is high—almost equalling that of the Lake Shore and very considerably exceeding that of the New York Central or the Michigan Central. As it is, however, very largely a freight road, it has not required the same standard of maintenance as the Lake Shore. Charges have carried considerable sums devoted to improvements, which including $250,000 set aside from surplus in 1905, and $350,000 so devoted in 1906, have been as follows:

1901	$756,000
1902	585,000
1903	645,572
1904	674,467
1905	787,340
1906	982,889

Surplus Earnings.

Both the nominal surplus and the actual surplus derived from adding to the former the amounts shown above as devoted to improvements, in pursuance to the policy of this book, are below:

	Surplus Shown.	Actual Surplus.
1901	$ 618,931	$1,374,391
1902	597,122	1,182,122
1903	604,248	1,249,820
1904	618,916	1,293,382
1905	870,362	1,407,702
1906	1,115,702	1,748,691

As already noted, about $140,000 per year has been paid from

earnings as principal on the car trust, and included as part of the fixed charges. If this amount were added to the surplus of 1906, the total would have been $1,888,691. This would have been sufficient to have paid the full 5% on both the first and second preferred and show 7.7% on the common stock.

Dividend Record.

Two per cent. on the first preferred was paid in 1897, none in 1898, and since that time 5% regularly.

Two per cent. also on the second preferred in 1900 and 3% subsequently up to 1906. In the latter year the stock was put on a 4% basis. Nothing has ever been paid on the common.

The Balance Sheet.

As of December 31st, 1906, the balance sheet showed:

Current assets	$3,008,073
Current liabilities	2,443,792
Leaving a working balance of	$ 564,281

There were, however, items in suspense to the amount of $670,-925, or sufficient to wipe out the balance of working capital. The item of cash amounted to $1,125,946, and the balance to credit of profit and loss to $511,625.

The company was obviously in need of working capital.

Investment Value.

The steady improvement in the affairs of the Nickel Plate is shown in the increase in gross earnings, with very slight increase of capital, of from $5,800,000 in 1897 to $9,900,000 in 1906, and an increase in net earnings of from $994,000 in 1897 to $2,300,000 in 1906. Excluding the amounts charged to operating expenses for new construction and new equipment, the actual net earnings of 1906 were nearly $3,000,000. If the figure of $1,888,000 be taken as the true surplus for the year and the half of this had been devoted to improvements, there would have been left $944,000, or sufficient to pay the full 5% on both classes of preferred stock and 1% on the common.

The preferred stocks are entitled to 5% non-cumulative dividends, and after 5% has been paid on the common all classes of stock share alike. As the first preferred has been on a 5% basis since 1899,

and as the fixed charges in 1906 consumed only about 40% of the actual total net income, it may be taken as a solid dividend stock. It sold as high as $124 per share in 1902, declining to par in 1903, rising again to $121 in 1906.

The second preferred on a 3% basis sold as high as $102 in 1906, the highest quotation ever reached. On a 4% basis it sold as low as $80 per share in 1907. This was the lowest quotation also for 1906. Save for the scarcity of money and the improvement requirements of the road, there was no reason why the full 5% should not have been paid on the second preferred in 1906. It was amply earned on the most conservative calculation.

Although on the surplus, as estimated above, 7.7% was apparently earned on the common stock in 1906, yet on a dollar-for-dividend and a dollar-for-improvement policy all of this amount would practically have been wiped out. Under the conservative policy of the road, therefore, it is improbable that dividends on this stock will be paid for some years to come. It sold as high as $57 per share in 1902, declining to $25 per share in 1904, rising to $76 in 1905 and declining as low as $35 per share in March of 1907. It will be seen that the fluctuations were wide and offered very considerable opportunities for profit. Purchased at somewhere around the quotations of 1904 and 1907 and put by, the stock would undoubtedly show a handsome increment to the investor who was willing to wait.

The company's earnings are amply sufficient to meet the interest requirements on the $10,000,000 new capital provided, and this new capital should have an immediate effect upon the earnings of the road, if for no other reason than that the company for several years has been paying out as much in hire of new equipment as the interest charges would have amounted to. With these prospects the stock should show a steady enhancement in value.

NEW YORK, NEW HAVEN AND HARTFORD RAILROAD.

The "New Haven," as it is familiarly known, had already become through a series of consolidations of minor roads, by far the most important rail system in New England, when, in 1907, it practically absorbed the Boston and Maine system, and through the latter, the Maine Central as well, thus gaining very near to a monopoly of New England transportation. Even before this merger, it directly operated, within a very circumscribed territory, over two thousand miles of track, with 921 miles of extra main track. It controls the larger part of the shipping trade along the shores of the territory through which it runs, practically eliminating serious competition in this direction, and in 1906 it owned about 75% of the street railways of Connecticut, and in addition it controlled by ownership of a clear majority of the stock, the New York, Ontario & Western, with 546 operated miles, and over $7,000,000 per annum of gross earnings.

Always a large dividend earner, the road under the present regime has made noteworthy strides, and the year of 1906 was a banner year in its history. Partly through the unusual increase of earnings, partly through large savings in the cost of transportation, and partly through changes of bookkeeping methods, the surplus shown in 1906 was half again as large as the average for the five previous years. Even this large surplus shown did not represent the true earnings of the road, some considerable equities having been concealed in the subsidiary companies.

The road is one of the most independent in the United States, but it is understood that with the completion of the Pennsylvania improvements across Manhattan and to Long Island, a working alliance will be concluded between the two lines, with a connecting link, so that trains may be run on an all-rail line from Boston to the farthest limits of the Pennsylvania system, as is now achieved through ferriage across from Mott Haven.

The New Haven is also noteworthy as being one of the first of the larger roads of the country to introduce electric traction on

its subsidiary lines, and this form of power is gradually being applied to the main system.

History.

The New Haven represents the consolidation in 1872 of the New York & New Haven, and the Hartford & New Haven lines. The policy of absorption and consolidation, through purchase or lease of minor roads has been followed steadily, the principal items being the lease of the Housatonic in 1892, of the Old Colony Railroad in 1893, and of the New England Railroad in 1898. The New Haven Steamship Company was acquired in 1900, and the Old Colony, the Providence, Stonington and other lines by lease, these various lines being consolidated into the New England Navigation Company, with gross earnings in 1906 of $4,917,194, and a capital stock of $10,000,000, the whole of which is owned by the New Haven road.

With the development of the New England trolley system, the New Haven gradually took over a large number of the lines within its territory, these being merged into the Consolidated Railway Company with a capital of $10,000,000, likewise all owned by the company; this organization having a gross income in 1906 of $5,409,438.

In 1904 controlling interests in the Central New England Railroad and the Newburg, Dutchess & Connecticut were purchased, and in the same year $29,160,000 par value of the common and $2,200 of the preferred, a majority of both classes, of the stock of the New York, Ontario & Western were acquired, the net cost being $13,-108,398.

The Central of New England owns the Poughkeepsie bridge and a small line beyond, giving a direct connection with the Ontario road. Through this purchase the New Haven distributes coal from the Scranton and Wilkesbarre region to New England, directly over its own lines.

In 1906, owing to opposition in Massachusetts to the New Haven's ownership of street railways in that State, the larger part of the New Haven's interest in Massachusetts trolley lines was disposed of to a voluntary association known as the New England Investment and Security Company.

No single interest dominates the New Haven, its stock being very widely held by small shareholders in New England. In 1905 the road reported 10,842 shareholders. For some years interests identified with the New York Central have been prominent in the directorate, Vanderbilt interests being directly represented by H. McK. Twombly, Morgan interests by Mr. Morgan himself, the New

Haven being one of the few large roads outside of the New York Central, in which Mr. Morgan is actively a director; and the Standard Oil interests by William Rockefeller. At the beginning of 1905 President Cassatt of the Pennsylvania was elected a director, and since that time the alliance of the New Haven with the Pennsylvania has steadily increased in scope. The other directors in 1906 included Charles S. Mellen, president; Charles F. Brooker, vice-president of the board; George MacCulloch Miller, George J. Brush and James S. Hemingway of New Haven; Charles F. Choate and Nathaniel Thayer of Boston; I. de Ver Warner of Bridgeport; Frank W. Cheney of South Manchester, Conn.; Edwin Milner of Moosup, Conn.; William Skinner of Holyoke, Mass.; D. Newton Barney of Farmington, Conn.; Robert W. Taft, Providence; John H. Whittemore of Naugatuck, Conn., and James S. Elton of Waterbury, Conn.

In consequence of the Boston & Maine merger, in June, 1907, Hon. Richard Olney of Boston, Chas. M. Pratt and Lewis Cass Ledyard of New York, directors in the B. & M., were added to the New Haven directorate; and also Henry K. McHarg of Stamford, Frederick F. Brewster and A. Heaton Robertson of New Haven. This added two more representatives of Standard Oil interests, Messrs. Pratt and Brewster, to the board.

Capitalization.

Owing to the numerous consolidations and mergers the capitalization of the New Haven is a rather complicated affair, involving numerous leases, guarantees and the like. The statement of 1906 showed a funded debt including the debentures and debts of the merged roads and bonded debt of constituent companies of $112,-543,725. In addition to this there were obligations to the owners of leased roads of $6,127,882, and bonds of leased roads not controlled by the New Haven, interest on which is paid or guaranteed by the New Haven, to the amount of $20,805,000.

These items brought the funded debt of the system up to $139,-476,607. The statement also includes the outstanding capital stocks of operated companies, controlled by stock ownership to the amount of $1,167,119. This latter item, with the total of funded debt given above, and the capital stock of the New Haven given below, brought the capitalization of the road up to $224,000,826.

But the New Haven paid as rentals on its leased lines in 1906 $3,935,593, a larger sum than the interest on its bonded debt. A part of the rentals paid is in the form of interest on the debt of

leased lines already included in the above estimate of gross capitalization. From the statement given in the report, it is impossible to segregate these items. In the make-up of the table of capitalization given below, $836,577 rentals paid on the New England Railroad and $848,570 interest paid as part rentals have been deducted from the rentals paid, and the balance, $2,240,443, capitalized at 4%, pursuant to the plan of this book. As there is possibly here some duplication, this may introduce some error into the estimate, but it is not large, and it is to be recalled that the estimates of capitalization are simply approximations in any event. The table for June 30th, 1906, would then stand:

Common stock	$ 83,357,100
Stocks of operated companies	1,167,119
Funded debt, debentures	70,315,725
Bonds	20,043,000
Bonds of constituents companies	22,185,000
Leased road obligations	6,127,882
Total capital	$ 203,195,826
Other debt (interest as part rental)	20,805,000
Rentals capital at 4%	56,011,075
Approximate gross capitalization	$ 280,011,901
Securities held	66,097,540
Approximate net capital	$213,914,361
Approximate net capital. per mile	$103,741
Average miles operated	2,062
Net earnings on net capital	8.2%
Stock on net capitalization	40%
Fixed charges on total net income	48%
Factor of Safety	52%

In 1907, the absorption of the Consolidated Railway and the New England Navigation Company, added $30,000,000 of new stock, and this, with other issues during the year brought up the total amount of stock to $121,878,100. A considerable part of the new stock created was exchanged for stock of the Boston & Maine.

The $66,000,000 of securities held, shown in the above table, directly yielded, in 1906, to the New Haven, only $1,883,568, or a little less than 3%. There were, however, undistributed equities in several companies, which would very considerably swell this income,

so that the book valuation of $66,000,000 is probably in no wise excessive.

On this basis it will be seen that the approximate net capitalization of the New Haven amounts to about $100,000 per mile, as against a similar estimate of $77,660 for the Boston & Maine, $123,-188 per mile for the New York Central, and $132,800 for the New Haven's subsidiary line, the New York, Ontario & Western. The New York & Ontario's gross earnings amount to $13,000 per mile; the New York Central's to $24,000 per mile, and the New Haven's to $25,700 per mile. It will be seen, therefore, that on the basis of its earnings, the capitalization of the New Haven is comparatively low.

This fact is further attested by the percentage which the net earnings bear to the net capitalization. In 1906 the net earnings amounted to 8.2% on this estimate of net capitalization, as against 5.8% for the New York Central, 3% for the New York & Ontario, 5.6% for the Boston & Maine, and 8% for the Pennsylvania.

It will be seen that the stock of the road represents 40% of its estimated net capitalization, while fixed charges in 1906 consumed only 48% of the total net income, leaving a factor of safety on the underlying securities and guarantees of the road of 52%. The factor of safety on the underlying securities of the New York Central is only 36%, and on the Boston & Maine it is only 22%. It will be seen, therefore, that the New Haven securities belong in the Pennsylvania class; that is to say, the available net income could decline one-half before the interest or guarantee would become impaired.

Equities Owned.

The most important single item in the list of securities owned was the controlling interest in the New York, Ontario & Western. This is carried on the books at $13,108,397, the net cost of the stock to the company. In 1906 the Ontario was paying a 2% dividend, which on the cost of the stock to the New Haven, yielded the road above 4.4% on its investment. There was no undistributed equity in the Ontario's earnings for the year, but with its new connections with the New Haven, giving the road a direct outlet into New England, and with the New Haven management, the earnings of the road should steadily increase, so that this should become an asset of steadily enhancing value.

The New Haven owned the entire capital stock, $10,000,000, of the Consolidated Railroad Company, operating its trolleys, and on

this received a 4% dividend in 1906, and in addition to the above there was an undistributed surplus of $120,000.

Similarly the New Haven received 4% on the $10,000,000 stock of the New England Navigation Company, and in 1906, after all payments and the writing off of $393,445 for depreciation of steamers and investments, there still remained an undistributed surplus of $163,000. This stock was carried on the books of the company at a valuation of $5,948,469.

In the spring of 1907, the Navigation Co. and the Consolidated were merged, on a basis of $20.000,000 for the Navigation Co., $10,000,000 for the Consolidated; and the new company was in turn absorbed by the New Haven, exchanging share for share, thus adding $30,000,000 of New Haven stock.

The New Haven owns a controlling interest in the Central New England Railroad, and in addition to this, $5,904,000, out of a total of $7,250,000 of its income bonds, the whole being carried at a valuation of $5,440,791; on this no interest was paid in 1906. The statement shows that operating expenses on the Central of New England in 1906 amounted to 90%, this high figure being due to the rebuilding and strengthening of the Poughkeepsie bridge. Had the road been operated on a 70% basis, this would have yielded a surplus of upwards of $330,000 instead of the $7,522 shown, from which, if this amount had been used in the interest payments on the income bonds, the New Haven would have derived about $250,000 for the year.

These are the New Haven's principal equities.

Included in the $66,000,000 of securities owned were "marketable stocks and bonds," to the value of $15,994,585, of which the debentures of the Consolidated Railway Company made up the larger part, and real estate in Boston, held for sale at $5,210,000.

Increase of Capitalization.

If the nominal capital and gross earnings of the New Haven for a series of six years be compared, the result would stand as follows:

Year	Common Stock	Funded Debt	Total Capital	Gross Earnings
1900	$54,685,400	$27,461,825	$82,147,225	$40,352,151
1906	83,357,100	70,315,725	153,672,825	52,984,322

Increase over six years: Total capital, 87%; gross earnings, 31%.

This comparison shows a very heavy increase in the capitalization with comparatively small increase in the gross earnings, and only $36,000,000 of the increase was represented by the purchase of new securities. The showing, however, is totally misleading, owing to the fact that the New Haven was paying a larger sum in rentals in 1900 than in 1906, and that in both these cases the capitalization of rented lines exceeded the funded debt of the company. Capitalizing the rentals of 1900 on a 4% basis, the gross capitalization of the New Haven in that year was in the neighborhood of $194,000,000, and deducting $30,000,000 of securities owned, the net capitalization was around $164,000,000.

When this figure is compared with the estimated figure of 1906, amounting to $213,000,000, it will be seen that the actual increase in the net capitalization, in these six years, has amounted to only about 23%. It is this percentage of increase which should rightly be compared with the 31% of gross earnings of the New Haven proper.

The New Haven's recent issues have covered a wide variety of improvements; part has been consumed in the street railway system, the apparent aim of the company being to build up a system which shall practically duplicate its steam roads. A six-track road is being constructed from New Rochelle to Mott Haven, designed to connect by way of a bridge by way of Randall's Island and Ward's Island, with the Pennsylvania in Long Island City. The company is complying with the legislative enactment requiring the substitution of electric traction or some other form of power through the Grand Central tunnel and approaches, and the line from Woodlawn to Stamford is to be run by electric power; and a double track short line has been authorized to Danbury, Conn., which will greatly improve the service on the Housatonic Division.

Character of Traffic.

The most noteworthy fact about the New Haven is that its passenger earnings nearly equal its freight earnings. While the freight earnings since 1900 have risen only from $19,450,000 to $27,247,000, passenger earnings have risen from $16,750,000 in 1900 to $25,250,000 in 1906.

Passenger earnings on the New Haven represent about 48% of the gross earnings, while on the New York Central they represent only about 30%, and on the Pensylvania only 20%.

The average freight rate received by the New Haven amounted

in 1906 to 1.40 cents per ton per mile, as against 1.16 cents for the Boston & Maine, .90c. for the Boston & Albany, .64c. on the New York Central, and .64c. on the Pennsylvania.

With such freight rates as these, it is scarcely a wonder that the New Haven is able to pay an 8% dividend and practically earns about 14% on its capital stock. The freight density of the road is low, much less than half that of the New York Central in 1906, and scarcely more than a fifth that of the Pennsylvania. The company does not itemize its freight traffic, but it is undoubtedly made up largely of miscellaneous articles, the cost of handling of which is high, but on which it receives a liberal rate.

Stability of Earnings.

The consolidations of the New Haven had largely been carried out by the beginning of the fiscal year of 1898-99, so that since this time the mileage of the system has remained practically unchanged. Within this period it will be seen that the gross earnings have increased from $37,000,000 to nearly $53,000,000 in eight years. In the same time the earnings per mile have risen from $18,235 to $25,695.

Year	Miles Operated	Gross Earnings	Per Mile
1895–6	1,404	$30,345,630	$20,724
1896–7	1,464	29,623,333	20,231
1897–8	1,464	30,322,738	20,709
1898–9	2,047	37,123,917	18,235
1899–0	2,038	40,325,151	19,844
1900–1	2,027	40,132,311	19,796
1901–2	2,027	43,521,087	21,467
1902–3	2,027	47,296,078	23,329
1903–4	2,032	48,282,909	23,761
1904–5	2,075	49,981,948	24,082
1905–6	2,062	52,984,322	25,695

This very considerable increase of earnings has not been accomplished, as with the Baltimore & Ohio, or even on the Pennsylvania, through a heavy increase in freight rates. The year of 1899 was bed-rock year for eastern roads generally, but the average freight rate received by the New Haven in 1906 was practically the same as in 1899. In other words, while the average rate of the Pennsylvania increased 24%, and that of the Baltimore & Ohio nearly 50%, the rates on the New Haven remained practically stationary. It is needless to say that a growth in earnings from an actual increase in business is a great deal healthier than from rising freight rates, and it is for this reason, as well as the practical monopoly which it enjoys

in its territory, that the earnings of the New Haven may be regarded as much more stable than those of most other eastern roads.

Maintenance.

For years the maintenance of the New Haven has been high, the items for six years comparing as follows:

Year	Traffic Density	Maintenance per Mile. Way	Maintenance per Mile. Equipment	Total
1900–1.......	637,581	$2,701	$2,194	$4,895
1901–2.......	712,651	3,038	2,676	5,714
1902–3.......	803,087	3,077	2,067	5,144
1903–4.......	817,709	2,691	2,315	5,006
1904–5.......	839,959	2,490	2,451	4,941
1905–6.......	915,909	2,723	2,749	5,472
Average....	787,816	$2,786	$2,408	$5,194
Bost. & M....	767,535	1,813	1,533	3,346
N. Y. Cent....	2,096,289	2,741	3,169	5,910

Miles of extra main track, 921.

Comparison of the maintenance charges with the Boston & Maine and the New York Central are given, but they are more or less misleading. For example, with about an equal freight density, the Boston & Maine's maintenance in this period averaged nearly $2,000 per mile less than on the New Haven, but the Boston & Maine shows gross earnings on only $17,000 per mile, as against $25,600 on the New Haven. The latter is easily in a position to spend more than the Boston & Maine.

On the other hand, with an average freight density, within these six years, nearly three times that of the New Haven, the New York Central spent a total of only about $550 per mile more annually. But here again the Central earns only $24,300 per mile, as against the $25,600 for the New Haven. The difference is obviously due to the fact that nearly one-half of the New Haven's gross earnings are derived from passenger traffic, as against less than 30% for the New York Central, so that the comparison of maintenance charges with freight traffic density, here, has little value. What may be done is to compare the expenditures of the road with itself, and it will be seen that the expenditure per mile in 1906 was but a very little higher than the average expenditures over the six years. In point of fact the road spent more per mile for maintenance in 1902 than in 1906. Meanwhile gross earnings per mile had risen an even 25%. In other words, had the expenditures for 1906 been

on the same scale as those of 1902, they would have been nearly $1,700 higher than they were, and this difference on over 2,000 miles of road would have made a difference of $3,500,000 in the maintenance charges, and the surplus shown would have been reduced by this amount.

In point of fact, in 1906, the road set aside $3,000,000 from its surplus for improvements, while the improvements of 1902, amounting to $3,403,708, were charged directly to operating expenses. All the practical difference is, therefore, that the surplus for 1902 would have been $3,500,000 more, or the surplus for 1906 would have been $3,500,000 less than the reports show—but one more of the multiplied instances adduced in this work to show that surplus and income and all their like are largely a matter of bookkeeping.

Improvements from Earnings.

The following amounts devoted to betterments were noted in the reports as charged to operating expenses in the years indicated:

1901-2	$2,425,815
1901-2	3,403,708
1902-3	1,867,817

In the reports for 1904 and 1905 the amount charged to improvements was not specially indicated, and the total amounts per mile devoted to maintenance were rather lower than the average of the three preceding years, and very considerably below the level of 1902. It is further to be noted that in these two years the New Haven showed a nominal surplus which represents less than the 8% dividends paid on the capital stock. In 1906, after maintenance charges slightly above those of 1904 and 1905, the road was able to write off $3,000,000 from the nominal surplus shown.

Surplus Earnings.

The surplus earnings for six years have compared as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$4,658,288	8.7	8	212
1901–2	4,678,959	8.6	8	221
1902–3	4,826,972	6.8	8	197
1903–4	6,094,756	7.6	8	191
1904–5	6,708,053	8.3	8	202
1905–6	10,185,377	12.2	8	198

The increase for 1906, amounting to 50%, is especially remarkable, and reference to the preceding table will show that this was achieved in the face of maintenance charges over $500 per mile higher than the previous year, or a total of $1,100,000 over 1905. There was a gain of nearly one million dollars in other income, but the larger part of this striking result was legitimately achieved through a reduction in operating expenses. The cost of conducting transportation was, on about the same mileage, over $1,600,000 less than the preceding year, and this was in the face of an increase in gross earnings of $3,000,000. The most important item in this saving was a reduction of about $950,000 in demurrage charges, that is to say, amounts paid on detained cars.

The effect of this saving, in the face of considerably increased maintenance charges, was that the total operating expenses of the road were actually reduced, so that the whole gain in gross earnings and more was saved in the net. This with the increased other income produced the result shown.

It is to be added that during the year an accident and casualty fund was established, into which is to be paid each six months, 2% of the gross earnings from passenger business. Apparently about $200,000 was diverted from income into this fund before showing the surplus of 1906.

After charging off $3,000,000 for improvements and betterments and $326,998 for the insurance fund, there still remained from the surplus a clear 8% for the stock.

Dividend Record.

The New Haven has always been one of the record dividend earners of the country. After the consolidation in 1872 it paid 10% straight through the depression of 1873-7 and down to 1893. In 1893 its dividend was reduced to 9%, and in 1895 to 8%. It has remained at this level ever since.

The Balance Sheet.

In the item of current assets in the balance sheet at the close of the fiscal year of 1906, there is an entry of "Marketable Securities" of $15,994,568. These securities have already been included in the item of securities owned, as shown in the capital account, and have been deducted from the nominal amount of current assets shown in the report. These securities consist chiefly of 4% debentures of the Consolidated Railway Company, and beyond the fact that it is the avowed intention of the company to sell them, there

is no more reason why they should be included in the current assets than any other marketable securities owned by the road. With this change the showing was:

Current assets	$24,033,682
Current liabilities	21,139,552
Leaving a working balance of	$ 2,894,130

The item of bills payable was rather heavy, amounting to upwards of $9,000,000, in addition to $4,500,000 of audited vouchers.

But these rather large sums were offset by $18,808,659 of clear cash in the treasury, so the company was fairly well off for working capital.

In addition to the assets shown there were special funds in cash and securities to the value of $2,764,427, and the amount to the credit of profit and loss was $13,084,445.

Investment Value.

Looking back over the operations of the New Haven, one of the most striking facts to be noted was that after the consolidations completed in 1898-99, the gross earnings of the road, with practically no change in mileage, increased $10,000,000, or more than 25%, in the four years to the close of 1903. In the same period net earnings remained practically stationary. In other words, apparently the entire amount of the increase in earnings was absorbed in increased cost of operation. When the items of the latter are examined, it is found that there was no heavy increase in maintenance charges, the principal item that had grown being the cost of transportation. This was not a favorable showing, and it was reflected in the fact that in the face of heavily increased earnings the percentage of surplus shown for the common stock had fallen in 1903 to 6.8%. In other words, to pay the full 8% dividend, the company had to reach its hands into its previously accumulated funds.

President Mellen came back to the road as president in 1903, and in less than three years of his administration earnings had increased $5,500,000, and the net had risen from $12,500,000 at the close of 1903 to $17,000,000 at the close of 1906. This was not accomplished through skimpage of maintenance charges, which about corresponded to the increase of traffic, but was due, as already noted, to decreased cost of transportation. This is scientific railroading.

This improvement, especially for the year of 1906, was so marked that in this year the company adopted the policy, fortunately becoming more general among railway companies, of having the books and accounts of the companies examined and certified by a reputable firm of chartered accountants. The report adds that in consequence of some changes recommended and adopted in the keeping of the books, there has been a considerable reduction in the net income of the company from that which would have been shown in following the methods of making up the accounts in previous years. In other words, the improvement over the preceding years was actually rather better than the altered system of accounting in 1906 reveals.

It is somewhat curious to note that in the face of this handsome improvement in the affairs of the company, the evidence of a much more energetic and progressive management, the stock of the New Haven has considerably declined. It sold as high as $255 a share in the boom of 1902. It still reached $225 in 1903; but at the high levels of 1906, with the best showing that the company has made in recent years, the highest price reached was $204 per share. In the very moderate slump of June, 1906, the stock sold down to $191, and in June, 1907, to $159½, which was $26 below the lowest price touched in the slump of 1903-4.

The apprehensive investor in or holder of New Haven stock will naturally inquire why this decline should have taken place. It was due in part, no doubt, to the high rates of money in 1906-7, averaging on time loans very nearly 6% during the year. New Haven is a kind of savings bank stock that is held by small investors for the dividends it returns, and with savings bank money at 4%, the stock would naturally tend to sell lower.

But the larger cause of the decline was the rapid issue of new securities which always weights a stock. The average investor, it is certain, dislikes a policy of aggressive improvement involving the issue of new securities, and this fact was reflected in the average price of the New Haven, as it has been in the New York Central, the Pennsylvania, and other roads.

The improvements planned for the New Haven were not completed in 1906, and if the stock could decline from $255 to $176 per share from 1902 to 1903, it was evident that it would probably go considerably below 1903 on another general recession, if $204 was the highest price it could reach in the general high levels of 1906. It is scarcely possible that New Haven will undertake to increase its dividend should high rates of money prevail. It is rather

doubtful, therefore, if New Haven stock would tend to sell above $200, and on any extensive decline in prices it would readily decline to a 5% basis, or lower; that is to say, to around $160 per share. as it did. With the highly satisfactory showing which the new administration of its affairs has made it is certan that there are few solider railway stock investments, and that at anything like these figures even the most cautious will probably conclude that the stock presents an attractive investment.

The offer of exchange for Boston & Maine stock was on a basis of share for share, that is to say, an 8% stock for a 7% stock. Comparison of the earnings of the two roads shows that the New Haven's dividend was on a much solider basis than the Boston & Maine's, and the exchange was therefore advantageous to holders of the latter stock. On the other hand the results which should accrue from a more energetic management of the Boston & Maine should fully justify the New Haven's acquisition of Boston & Maine control.

NEW YORK, ONTARIO AND WESTERN RAILWAY.

The New York, Ontario and Western operates a line from Cornwall on the Hudson, to Oswego, on Lake Ontario, with trackage rights over the West Shore (New York Central lines), from Cornwall to Weehawken. In connection with the Rome, Watertown and Ogdensburg, the Grand Trunk and Wabash, it has a roundabout through route from New York to Chicago. The company's most available asset, however, is its coal holdings in Pennsylvania, which it reaches by a branch from Cadosia to Scranton, Pa.

It was on account of its coal holdings that the control of the road was purchased by the New York and New Haven at the close of 1904, for a little over thirteen million dollars. It is for the same reason that the road is to be ranked as a "coaler."

History.

The Ontario was organized in 1880, as the successor of the New York and Oswego Midland Railroad. It owns its own line from Cornwall to Oswego, and the several branches and leased lines bring up its operated trackage to 546 miles. Its main business is distributing coal from the Pennsylvania district.

Ownership.

The New York and New Haven holds 291,600 shares of common stock, and 22 shares of the preferred stock, constituting a clear majority of both. Out of its thirteen directors, eight are from the board of the New Haven, including President Charles S. Mellen, and vice-president Charles F. Brooker of the latter. The board also includes Thomas P. Fowler, president, John B. Kerr, vice-president and general counsel, and J. B. Childs, vice-president and general manager of the Ontario; and Charles S. Whelen, of Philadelphia. As the property of the New York and New Haven, the Ontario has naturally the same affiliations as the latter, but it has

no extensive holdings of other roads of its own. Two of the New Haven directors, J. Pierpont Morgan and William Rockefeller, are also directors of the New York Central. Morgan interests are supposed to be dominant also in the Erie, which is the other chief competitor of the Ontario.

Capitalization.

As of June 30, 1906, the capital account stood as follows:

Common stock	$58,113,982
Preferred stock	4,000
Total stock	$58,117,982
Funded debt	22,000,000
Notes	4,025,000
Equipment notes	462,000
Total capital	$84,604,982
Rentals capitalized at 4%	5,112,500
Approx. gross capitalization	$89,717,482
Securities held	12,767,853
Approx. net capitalization	$77,049,629
Approx. net capit. per mile	$141,116
Average miles operated	546
Net earnings on net capital	3.0%
Stock on net capitalization	75%
Fixed charges on total net income	53%
Factor of Safety	47%

It will be observed that the property of the company is enormously overcapitalized, the estimated net capitalization per mile being about the same as that of the New York Central, with gross earnings per mile nearly double that of the Ontario. The net earnings show only 3% on the estimated net capitalization, which is just half that of the general average for the country. The larger part of this watered capital, however, is represented by stock, the latter amounting to 75% of the estimated net capitalization. The bonded debt of the road is not heavy, amounting to about $40,000 per mile. If this were represented by an equal amount of stock, the road would be able to pay fair dividends. As it is, the road paid its

first dividend in 1905, from the surplus accumulated through previous years.

The Fixed Charges consume a little over half of the available net income, leaving a Factor of Safety for the underlying securities of 47%.

Equities Owned.

The treasury securities consist principally of first and second mortgages of the Scranton Coal Company, and the Elk Hill Coal and Iron Company, of a par value of about seven and a half millions dollars. The balance of $12,767,853 of securities owned was made up of the stocks and bonds of subsidiary companies. It is through these coal holdings that nearly half the company's gross earnings are derived.

Increase of Capitalization.

In six years the increase of capital and earnings has been as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross
1900.......	$58,113,983	$4,000	$15,437,000	$73,554,983	$4,963,483
1906.......	58,113,982	4,000	22,000,000	80,117,982	7,265,057

Net increase over six years: Nominal capital, 10%; Gross earnings, 46%.

Character of Traffic.

Of the $5,899,000 of freight earnings in 1906, $3,070,000 were derived from the transportation of coal. Another large item was the haulage of milk which brought in $688,000. These two items constitute an even half of the gross earnings. The passenger traffic represented less than 20% of the total.

Stability of Earnings.

Mileage and earnings through a series of years have compared as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6............	480	$3,779,336	$7,927
1896–7............	480	3,894,403	8,105
1897–8............	480	3,914,635	8,148
1898–9............	480	4,346,163	9,046
1899–0............	480	4,963,483	10,331
1900–1............	480	5,322,884	11,079
1901–2............	480	5,456,696	11,357
1902–3............	548	6,176,518	11,263
1903–4............	548	6,652,484	12,137
1904–5............	548	7,090,889	12,930
1905–6............	546	7,265,057	13,3[illegible]9

It will be seen that in ten years the gross earnings per mile have increased by over 60%, and this increase has been steady with practically no setback from year to year. This, in the face of the coal troubles, is a very satisfactory showing.

Maintenance.

For a number of years the company has pursued a policy of a very liberal appropriation for the maintenance of the road. In a very satisfactory report presented by the company, the items of maintenance are shown in extreme detail, with a demonstration that they have been more than adequate for the proper conduct of the road. For example, the allowance for repairs of engines for the year 1906 amounted to $2,568 per engine, as against an allowance of $1,372 per engine in 1897. Correspondingly, the maintenance per freight car amounted to $71 for the year 1906, as against $34 in the years 1897 and 1898. In other words, while traffic density has not very heavily increased, these two charges for maintenance have been doubled. It seems fair to assume, therefore, that there has latterly at least been a surcharge in these items, and that in years of necessity the maintenance might be curtailed somewhat without detriment to the road. For six years the charges compare as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1901–2.......	1,128,728	$1,863	$1,556	$3,419
1902–3.......	1,059,135	1,689	1,517	3,206
1903–4.......	1,151,312	1,829	1,716	3,545
1904–5.......	1,268,484	1,510	1,818	3,328
1905–6.......	1,211,812	1,634	2,023	3,657
Average....	1,163,894	$1,705	$1,726	$3,434

Miles of extra main track, 113.

Erie.......	2,368,817	1,845	2,890	4,735
N Y. C....	2,096,289	2,741	3,169	5,910

In 1902-3-4 the surplus earnings were applied to the double-tracking of the line from Cornwall on the Hudson to Cadosia, where the branch to the coal regions strikes off. Up to June 30th, 1906, the amount expended on this work amounted to $2,836,000.

Surplus Earnings.

While the gross earnings through ten years have increased by 60%, a large part of this was absorbed by operating expenses, due

in large part to the policy of heavy maintenance. The net earnings per mile of road operated increased from $2,318 for the year of 1897, to $3,722 for the year of 1906. The result of this was to increase the surplus earnings shown from $832 per mile to $2,175 per mile.

For six years the items have compared as follows:

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$ 879,233	1.5	—	32
1901–2	658,959	1.1	—	32
1902–3	860,972	1.4	—	31
1903–4	886,929	1.5	—	29
1904–5	1,281,277	2.2	4½	33
1905–6	1,187,500	2.0	2	52

This would have been a very satisfactory showing if it had not been for the amount of watered capital. The surplus shown touched high water mark in the year of 1905, but even then it represented only 2.2% on the capital stock of the company. This was insufficient to pay any dividends except from the accumulation of surplus, as was done in 1905. In that year a dividend of 3% from surplus was declared, payable Jan. 1, 1905, and 1½% was paid in the July following. In 1906 a dividend of 2% on the common stock was declared.

The Balance Sheet.

On June 30, 1906,

The current assets showed	$3,344,137
Current liabilities	2,642,372
Leaving a credit balance of	$701,765

The amount of cash on hand was $1,130,416. The Profit and Loss surplus was small, amounting at the close of 1906 to $4,907,960.

Investment Value.

In a careful, conservative way, the Ontario has been admirably managed, and has an enviable record. In twenty years its gross earnings per mile have increased by more than three times, and its net earnings per mile nearly five times. The surplus from operation was $160 per mile in 1887. It was over $2,000 per mile in 1905-6. This gain has been slow from year to year, due to the steady growth of the territory controlled by the company. It may

scorcely be doubted that under the new ownership this excellent management will be continued, and as the growth of business should also continue, the stock of the Ontario should in time prove an excellent investment. Now that the road has been taken over by the New Haven, it ought to do better perhaps than in the past. It provides a fairly direct line from the heart of the coal regions to all of lower New England without passing by New York. The New Haven has been double-tracking and bringing up to a high standard of efficiency its Central New England Railway, which crosses the Hudson by the Poughkeepsie Bridge, and meets the main line of the Ontario at Campbell Hall, N. Y. A spur of the Ontario also reaches to Kingston while another spur of the Central New England reaches Rhinecliff on the opposite side of the river.

With this new connection the earnings of the Ontario ought to show a steady increase, certainly not falling below that of recent years, even though the country in general should not be so prosperous.

It is not improbable that an endeavor will be made to maintain the 2% dividend declared for the year 1905-6. Such a dividend will just meet the interest charges on the New Haven's debenture bonds issued to cover the purchase price of the Ontario. The policy of the New Haven has been that of a very liberal maintenance, and the disbursement of practically all the surplus remaining in dividends. If this policy be pursued, the shareholders of the Ontario may regard their 2% dividend as fairly safe under prosperous conditions, the absence of strikes and the like.

On this basis, with money at 4%, the stock is reasonably worth from $40 to $50 per share. The price paid by the New Haven, with the 3% disbursement of surplus deducted, averaged $45 per share. The price was run up to $64 per share in 1905 in anticipation of the 3% dividend declared that year from accumulated surplus. It sold down to $42 per share in the very moderate slump of May, 1906, and to $32 in May, 1907. Under any considerable decline in railway values the stock might go considerably lower than this. On the other hand, "low priced" shares seem to have a great attraction for certain types of investors, though the word price has reference merely to the bare price, and not to values. The Ontario has been one of the numerous "low priced" stocks which have been extensively manipulated in the past, its stock selling down to $19 per share in 1903 and in 1904, with every whit as good prospects

as it had at $40 per share in 1901. Now that control has definitely passed to the New Haven, the floating stock has no value to other roads.

Looking at the record of the company, the cautious investor will probably conclude that the stock would be a very good purchase at $40, still better at $30 per share, and perhaps a good thing to let go of, when it had risen to above $50 or $60 per share.

NEW YORK, SUSQUEHANNA AND WESTERN RAILROAD.

(Controlled by the Erie Rd.)

The New York, Susquehanna and Western operates a small road extending from Jersey City to Wilkesbarre, Pa., with a branch from Longwood to Middletown, N. Y. The total mileage operated is 238 miles, with 25 miles of double track.

In 1906 the gross earnings on all accounts were $2,757,925. This was about the same as the gross earnings for the previous year. Operating expenses slightly increased, however, but this increase was general and not due to any increase in the maintenance charges. As a result of the operations for the year the road showed a deficit of $24,332. In addition to this there were expended for improvements $114,380, making the total deficit for the year $138,713. This was after sinking fund payments of $52,940.

The interest on the funded debt has consumed practically all the surplus over operating charges.

The road has a capital of

Common stock	$13,000,000
Preferred stock	13,000,000
Total	$26,000,000
Bonded debt, including leased lines	15,668,000
Total	$41,668,000

This is equivalent to $175,000 per mile, which is enormous capitalization for a road with gross earnings of only $11,000 per mile.

No dividends have been paid on the stock since 1892. Practically all of the stock was exchanged for Erie stock in 1898, and there is very little of it outstanding.

The road is obviously regarded as of value to the Erie or its purchase would not have been made. It is, therefore, probable that

no default would occur on its interest obligations should the deficit of its earnings continue. In 1905 the road showed a net surplus, after sinking fund payments of $92,515, and at the close of the fiscal year of 1906 after the payment of the deficit, there remained a net credit to Profit and Loss of $1,101,704.

The total maintenance for the year amounted to $2,663 per mile, which was a slight increase over 1905. These figures are probably adequate without being excessive.

The Erie's equity in this road probably represents nothing more than the advantages of having the road under its control.

NORFOLK AND WESTERN RAILWAY.

The Norfolk and Western was one of the important "soft coalers," which in 1901 was gathered into the Community of Interest plan. In that year practical control was acquired by the Pennsylvania, and since that time it has shown a very remarkable prosperity.

The history of the road dates back to 1851, when the Norfolk and Petersburg became one of several roads controlled and in part owned by the State of Virginia, and afterwards consolidated into the Atlantic, Mississippi and Ohio Railroad. The latter fell into the hands of a receiver and in 1880 was reorganized as the Norfolk and Western Railroad, of which the present Norfolk and Western Railway represents a reorganization which took place in 1896.

The company operates a fine freight line, part of it double-tracked, from Norfolk westward through the rich coal fields of West Virginia to Cincinnati and Columbus, Ohio, with an important branch extending up the Shenandoah Valley to Hagerstown, Md. The operated mileage of 1906 was 1,853 miles.

Ownership.

Control of the road was insured to the Pennsylvania through the ownership of $33,000,000 of the $89,000,000 of the capital stock of the road, held as follows:

	Preferred.	Common.
Pennsylvania R. R.	$5,500,000	$20,330,000
Pennsylvania Co.	5,000,000	1,500,000
Northern Central Railway	500,000	1,000,000
	$11,000,000	$22,830,000

In September, 1906, it was announced that the Pennsylvania had disposed of approximately one-half of its holdings, along with a similar proportion of its Baltimore & Ohio stock, and all of its holdings in the Chesapeake & Ohio.

As of December 31, 1906, the Pennsylvania Railroad held only $6,246,000 of the Norfolk & Western common and $3,246,000 of the preferred. That is to say, the Pennsylvania, proper, reduced its Norfolk & Western holdings by about $16,000,000.

The sale was made to Kuhn, Loeb & Co., Bankers, New York, presumably for the eventual transfer to some other interest. This banking firm is very closely associated with the Harriman-Frick-Rogers interests in the Union Pacific and other roads, and in view of the Union Pacific's purchase of a half of the Pennsylvania's holdings in Baltimore & Ohio, it was assumed that both this Norfolk & Western stock and the Pennsylvania's holdings of Chesapeake & Ohio might find their way into the same hands, this probability being accentuated by the fact that H. H. Rogers is building the Deepwater & Tidewater Railway, paralleling both the Norfolk & Western and the Chesapeake & Ohio into the coal fields of West Virginia.

The sale of the Pennsylvania's holdings, however, brought no immediate change in the directorate of the road, which, in 1905-6, included J. B. Thayer, Samuel Rea and J. P. Green, vice-presidents, and W. H. Barnes, director, of the Pennsylvania, and James McCrea, then vice-president of the Pennsylvania Company; Henry Fink, chairman, L. E. Johnson, president, William G. Macdowell, vice-president, and Joseph I. Doran, general solicitor, of the Norfolk & Western; Victor Morawetz, chairman of the board of directors of the Atchison Railway, and William H. Taylor, of Norfolk, Va. Perhaps in consequence of a government investigation, two of the Pennsylvania representatives, John B. Thayer and William H. Barnes, resigned from the board in 1906, and H. C. Frick and Levi C. Weir were elected in their stead.

Mr. Frick is credited with being one of the largest single shareholders in the road and also in the Reading. He is a director in the Pennsylvania, Reading, Union Pacific, Chicago and North-Western, Atchison and other lines, and by virtue of his extensive holdings has recently become one of the potent figures in the control of American railroads. Mr. Weir is president of the Adams Express Company, a director in the Iowa Central, Minneapolis and St. Louis, and other roads.

The affiliations of the Norfolk and Western have been naturally those of the Pennsylvania Railroad, and as its nearest competitor, the Chesapeake & Ohio, was jointly controlled by the Pennsylvania

and New York Central, competition in this field has naturally been all but eliminated.

Capitalization.

As of June 30, 1906, the capital account, including $8,900 of preferred and $1,530,800 common stock, held in treasury, stood as follows:

Common stock	$66,000,000
Preferred stock	23,000,000
Total	$89,000,000
Funded debt	80,689,500
Car Trusts	9,400,000
Total capital	$178,089,500
Average capitalization per mile	$96,108
Miles operated	1,853
Net earnings on net capital	6.4%
Stock on net capital	52%
Fixed charges on total net income	37%
Factor of Safety	63%

The company owns practically all its lines, so that the item of rentals paid is not considered in the estimate of capitalization, and on the other hand the amount of securities held is small; the one item about offsetting the other. The capitalization per mile is rather high, as is generally characteristic of reorganized roads, its $96,000 per mile comparing with $77,142 per mile for the Chesapeake and Ohio, and $97,241 for the Baltimore and Ohio.

The net earnings on the net capital showed a respectable figure of 6.7%, comparing with 7.0% for the Chesapeake and Ohio and 7.1% for the Baltimore and Ohio.

The capitalization of the company is well arranged, the stock amounting to about half, Fixed Charges consuming only 37% of the total net income. This leaves an estimated margin of safety for the bonds of 63%.

The amount of preferred stock is not large, and the payment of 4% on that stock consumes only $920,000, which requires less than an additional 10% of the total net income, so that the margin of safety on the preferred payments is on this basis more than 50%.

Norfolk and Western holdings in other companies are not extensive, the chief item being the entire capital stock of the Pocahontas Coal Company, $1,000,000, acquired in 1901. Towards the development of this company's property, the Norfolk and Western assumed equal responsibilities with the Coal Company in the issue of $20,000,000 4% Purchase money bonds, due 1941, the railway practically guaranteeing both principal and interest. In 1906, a sinking fund was begun for the retirement of these bonds. Meanwhile the Norfolk and Western and the Pennsylvania lines west of Pittsburg (Pennsylvania Company, etc.), agreed to make good deficiencies in the interest payments, two-thirds of which was to be made by the Norfolk and Western. In the favorable years since this agreement was made, the Norfolk and Western has advanced to the Coal Company $1,020,000 and in addition thereto, $800,000 in cash for the purchase of additional real estate. The railway's interest in the company, therefore, has so far represented a small annual loss, but it is expected that in time the royalties received by the coal company will be more than sufficient to pay the interest on the bonds and the sinking fund requirements, and meanwhile the company has direct control of an important source of tonnage.

Increase of Capitalization.

In the six years from 1900, the company's capital has increased $30,600,000, or 22%, while the gross earnings have increased 102%. This is a remarkable record. The items compare as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1899–0...	$66,000,000	$23,000,000	$49,099,500	$138,099,500	$14,091,004
1905–6...	66,000,000	23,000,000	80,689,500	169,685,500	28,487,766

At the close of 1906, $34,000,000 of new convertible 4% bonds were issued, convertible into common stock at par.

Character of Traffic.

The largest single item in the tonnage of the road is bituminous coal and this, with coke, amounts to about 60% of the total tonnage. The company does not separately itemize its freight earnings, but these in 1906 comprised over 85% of the gross earnings. The passenger traffic amounted to only about 13%. It will be seen,

therefore, that it is chiefly a freight road and derives the larger part of its earnings from the carriage of coal.

Stability of Earnings.

Since the reorganization in 1896 the gross earnings have mounted steadily, increasing from between ten and eleven million dollars to above twenty-eight million dollars, or nearly 180%. The mileage has not greatly increased, so that the earnings per mile have risen correspondingly, as the following table shows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6............	1,570	$10,908,851	$6,946
1896–7............	1,560	10,537,723	6,755
1897–8............	1,565	11,236,123	7,179
1898–9............	1,555	11,827,139	7,605
1899–0............	1,552	14,091,005	9,079
1900–1............	1,560	15,785,442	10,118
1901–2............	1,677	17,552,205	10,466
1902–3............	1,713	21,160,675	12,353
1903–4............	1,723	22,800,991	13,233
1904–5............	1,799	24,089,260	13,390
1905–6............	1,853	28,487,766	15,373

Maintenance.

Apparently the Norfolk and Western has been maintained very liberally, especially within the last three years, and more particularly so in 1906, when the total expenditures per mile amounted to $4,420.

The charges for equipment amounted to $2,202 per locomotive, $628 per passenger car and $53 per freight car. This was equally liberal, but in view of the increase in the average freight car capacity, during the last three years, the average maintenance was not perhaps above that of the Pennsylvania standard. The items through a series of years were as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	1,836,135	$1,266	$1,460	$2,726
1901–2.......	1,879,494	1,271	1,392	2,663
1902–3.......	2,124,743	1,608	1,775	3,383
1903–4.......	2,223,328	1,660	2,050	3,710
1904–5.......	2,373,674	1,721	2,177	3,898
1905–6.......	2,704,515	1,856	2,564	4,420
Average....	2,190,314	$1,563	$1,903	$3,466

Miles of extra main track, 185.

C. & O.	2,057,510	1,387	1,995	3,382
B. & O.	2,282,704	1,876	2,416	4,292
Penn.	3,862,125	3,648	4,983	8,631
Erie.	2,764,827	1,861	3,216	5,077

The train tonnage of the road is high, amounting in 1906 to 580 tons per train, and this has necessitated a great deal of reconstruction, the conversion of wooden bridges into steel trestles, the enlargement of stations, etc. The outlay for the year of 1906, included the relaying of 82 miles with heavier rails, considerable improvement of tunnels, etc. This maintenance was certainly adequate, though it may not have been excessive.

Improvements.

Over and above the improvements directly charged to maintenance, the company has annually set aside considerable sums for a betterment fund, amounting in the last six years to $15,200,000, as follows:

Year.	Betterments.	Paid on Norfolk & Western-Pocohontas Joint Bonds.
1899-0	$1,500,000	
1900-1	1,500,000	
1901-2	2,500,000	$161,230
1902-3	2,500,000	159,176
1903-4	2,000,000	295,595
1904-5	2,250,000	216,000
1905-6	2,950,000	188,000
Totals	$15,200,000	$1,020,001

In its annual report the company states that from the time of its reorganization to June 30, 1906, the company has expended for betterments a total of $41,000,000, of which $18,793,000 has been met from surplus income. This on the present mileage means about $10,000 per mile for the ten years.

Car Trusts.

In addition to the amounts devoted to improvements stated above, the company, following in this regard the general Pennsylvania policy, has created car trusts, for the purpose of equipment, amounting to $12,514,000. Of these Car Trust certificates, there were, on June 30, 1906, $9,400,000 outstanding.

Surplus Earnings.

In seven years the surplus available for improvements and dividends has more than doubled, leaving in each year of this period a surplus available for the common stock as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1899–0...	$3,389,832	4	3.8		29
1900–1...	4,157,831	4	5.		44
1901–2...	5,123,095	4	6.5	2	56
1902–3...	6,040,189	4	7.9	2½	64
1903–4...	5,819,302	4	7.6	3	63
1904–5...	5,833,454	4	7.6	3½	83
1905–6...	7,452,374	4	9.6	4	88

Dividend Record.

The dividend record for twenty-three years is as follows:

Year.	Preferred.	Common.
1883......................	4	
1884......................	3½ (scrip.)	
1888......................	1½	
1889-91..................	3	
1892......................	1½ (and 1% scrip.)	
(Receivership.)		
1897 (new company).......	1	
1898......................	3	
1899-00..................	4	
1901......................	4	2
1902......................	4	2½
1903-4....................	4	3
1905......................	4	3½
1906......................	4	5

Since the reorganization in 1899 the company has always paid the full 4% on the preferred stock. In 1901, dividends were begun on the common, and the earnings for 1906 were so favorable that the dividend on the common stock was increased to 5%.

The Balance Sheet.

Excluding materials and supplies, advances to subsidiary companies, etc., the general balance of June 30, 1906, showed:

Curret assets........................	$6,353,111
Current liabilities....................	4,605,695
Leaving a balance of..............	$1,747,416

The item of cash in hand was $4,151,422, and the credit to Profit and Loss was $3,800,853.

Investment Value.

The preferred stock of the Norfolk and Western has, at least within recent years, had a comfortable margin of safety, and can be looked upon as a solid security of its class. Its 4% is non-cumulative and limited, so that with money ruling at 4% it is entitled to sell around $90 to $100 per share. As a matter of fact it has never yet sold at par, the highest quotation being $96, reached in 1905-6. In the slump of 1903-4, it went down to $51, and in the very moderate decline of 1906 to $90. At the latter figure its yield is 4.4%.

The highest reached by the common stock in 1902 was $80 per share and it sold off to $53 in 1903-4, rising again to $97 in 1906, on increase of dividend to a 5% basis.

The issue at the close of 1906 of $34,000,000 par value, of bonds, convertible at par into common stock, introduced a new element into the prospective price of the common stock, for it is evident that even under a still further increase of dividends the stock could not advance materially beyond par until the conversion was complete. This would add 50% to the amount of common stock outstanding, raising the total to $100,000,000.

Another matter that may materially affect the value of Norfolk & Western securities is the construction of the Deepwater & Tidewater Railway, which is to parallel the Norfolk and reach into the same coal fields. It is stated that this road is being built by H. H. Rogers of the Standard Oil Co., and was undertaken because Mr. Rogers was unable to obtain from the Norfolk & Western a rate satisfactory to him, for the carriage of coal from his extensive holdings in coal lands in West Virginia. If control of the Norfolk & Western should eventually pass into hands friendly to Mr. Rogers, it might readily be that the new line would be taken over by the Norfolk & Western. But such a purchase could hardly be regarded by the stockholders with great favor. It would add no new territory and only new track, and past experience would suggest the probability that the price paid for the new line would be

heavy. It is obvious that almost any price it would pay would be several times more than the cost of double tracking of the Norfolk & Western throughout its entire length.

On the other hand, should the Tidewater road remain independent, it might prove a very interesting competitor, alike for the Norfolk & Western and the Chesapeake & Ohio. The interests behind the new road are not inexperienced, and it is being built to carry freight at the lowest possible cost.

On a 5% basis, with a fair prospect of steadily increasing earnings, a corresponding increase in the available surplus, and not improbably a still further raise in the dividend, Norfolk & Western in times of normal money should tend to sell well towards par, or somewhat above. Obviously with its earnings so largely dependent upon a single industry, and that industry the carriage of coal, it would tend to sell rather below other 5% stocks with similar prospects, but on a broader basis of security. In the heavy slump of March, 1907, the stock sold down to $71 per share. At any such figures it would appear to be an extremely attractive purchase.

With a large probability of the maintenance of rates, the investor in Norfolk & Western would consider simply the prospective conditions in the coal industry, and incidentally that of the country at large. The capital issues of the company have been profitably employed heretofore, and there is no reason to suppose that money derived from the issue of new bonds will not be put to equally good use.

NORTHERN CENTRAL RAILWAY.

The Northern Central Railway is a back-country line, owning a road from Baltimore to Harrisburg and Sunbury, in Pennsylvania, and operating thence by leases and contracts northward through Williamsport to Sodus Point, on Lake Ontario. The majority of its stock (in 1906, $9,401,950, par value) is owned by the Pennsylvania, and Pennsylvania representatives constitute a majority of the board. The other directors of 1906 were: H. Walters and J. D. Cameron, of New York; Luther S. Bent, Wayne MacVeagh and A. Loudon Snowden, of Philadelphia, and Michael Jenkins, of Baltimore.

The road is officered by the Pennsylvania forces. In 1906 it operated 462 miles of main road, and about half its freight tonnage was coal.

Aside from some stocks in associated or subsidiary lines, the Northern Central, on January 1st, 1907, owned $1,000,000 par value of Baltimore and Ohio preferred and $1,048,700 common; likewise $500,000 of Norfolk and Western preferred, and $1,000,-000 common. During 1906 the company's holding of Chesapeake & Ohio common stock, $1,500,000, par value, was sold.

Capitalization.

At the close of 1906 a stock dividend of 12½% was declared and charged to profit and loss. Including this amount, on which no dividends were paid during 1906, the capital account, January 1st, 1907, stood as follows:

Common stock	$17,193,400
Stock dividend	2,149,168
Total stock	$19,342,568
Funded debt	6,942,528
Car trusts	813,755
Total Capital	$27,098,851

Rentals capitalized at 4%	11,780,000
Approx. gross capitalization	$38,878,851
Securities held	6,634,987
Approx. net capitalization	$32,243,864

Approx. net capital. per mile	$69,791
Average miles operated	462
Net earnings on net capital	7.0%
Stock on net capitalization	55%
Fixed charges on total net income	28%
Factor of Safety	72%

It will be seen that the estimated net capitalization is rather high and that the net earnings on this capitalization represented 7%.

Fixed charges were very low, amounting to only 28% for 1906, leaving a large factor of safety for the underlying securities.

In 1906 the company owned stocks and bonds to a par value of $9,572,000, of which the larger amount, aside from the holdings of Baltimore & Ohio and Norfolk & Western stock already noted, was of subsidiary lines.

Since 1900 the nominal capital increase has been small, while in the meantime gross earnings have increased by nearly one-half, as follows:

Year	Common Stock	Funded Debt	Total Capital	Gross Earnings
1900	$11,462,400	$9,578,000	$21,040,400	$7,845,412
1906	17,193,400	6,942,528	24,135,928	11,632,633

Net increase over six years: Nominal capital, 15%; gross earnings, 48%

Stability of Earnings.

The gross earnings have shown a considerable increase, rising steadily with the increased mileage, as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896	380	$6,286,602	$16,675
1897	380	6,732,703	17,858
1898	380	6,664,028	17,676
1899	380	7,233,417	19,059
1900	381	7,845,412	20,591
1901	381	8,266,958	21,695
1902	422	8,456,685	20,039
1903	450	10,310,086	22,911
1904	461	10,288,204	22,315
1905	462	10,531,962	22,793
1906	462	11,632,633	25,175

Maintenance.

The road has been very heavily charged for maintenance through a series of years, as the following table reveals:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900.........	2,874,790	$2,713	$3,469	$6,182
1901.........	2,826,046	2,930	3,588	6,518
1902.........	2,404,224	2,628	3,385	6,013
1903.........	2,822,372	2,790	4,334	7,124
1904.........	2,658,737	2,370	4,101	6,471
1905.........	2,740,254	3,127	4,565	7,692
1906.........	3,166,490	2,968	4,742	7,710
Average...	2,798,987	$2,789	$4,026	$6,815

Improvements.

In addition to the heavy charges the following sums have been set aside from surplus earnings for special improvements:

1900..............................	$1,011,451
1901..............................	1,101,139
1902..............................	700,000
1903..............................	908,484
1904..............................	920,681
1905..............................	827,000
1906..............................	1,100,582
Total.........................	$6,569,337

Surplus Earnings.

Including the liberal appropriations noted, the road has steadily earned a high surplus, as follows:

Year	Surplus	Per cent. Earned on Common Stk.	Dividends Paid on Com. Stk.	Average price ($50 share)
1900.............	$1,695,484	14.8	7	86
1901.............	2,018,019	17.7	8	98
1902.............	1,746,547	15.3	8	115
1903.............	1,847,094	16.2	8	99
1904.............	2,077,131	12.	8	94
1905.............	2,238,787	13.1	8	104
1906.............	2,715,788	15.7	8	104

Dividend Record.

For a series of years the dividend record has been as follows:

1888	7 %
1889	8
1890-1	7
1892-3	8
1894-1900	7
1901-06	8
1906	8 and 12½% stock

The Balance Sheet.

As of December 31st, 1906, the balance sheet, excluding materials and supplies, showed:

Current Assets	$3,558,396
Current Liabilities	2,791,689
Leaving a working balance of	$766,707

The item of cash was $662,580 and the balance to credit of profit and loss, after charging off the 12½% stock dividend amounting to $2,149,168, was $1,860,467.

Investment Value.

In 1906 a movement of the minority stockholders for an increase of dividends, resulted in the declaration of the stock dividend already noted of 12½%. The regular annual dividend remaining the same, this was equivalent to about a 9% dividend for the holders of record of 1906. For present purchasers of the stock, however, it represents simply an 8% stock with no very immediate prospect for an increase of the dividend. The exceptional surplus shown in 1906 was eqivalent to 15.7% on the outstanding stock of that year and to an even 14% on the total stock, as increased by the stock dividend.

It is to be noted that the earnings for 1906 were considerably higher than the average for the preceding four years and that under the increase of stock the percentage earned on the common has tended to decrease from the high point of 1901. The mileage earnings of the road have shown very little tendency to increase in the five or six years preceding 1906, nor has there been any very heavy increase in the rate of maintenance as compared with the traffic density.

Through a series of years the stock has oscillated around 200 (i.e. $100 for $50 shares) and on this basis the yield to the investor is about 4%. The price, therefore, as compared with money rates of 1906-7 was high, and although the earnings of the stock are large, an 8% dividend does not represent much more than the traditional half-for-improvements half-for-dividends policy of the Pennsylvania. It is obvious, therefore, that there were other stocks on the list representing the same basis of security (the road is largely a coal line and therefore very sensitive to the prosperity of this industry) with a larger prospect of profit to to the purchaser.

NORTHERN PACIFIC RAILWAY.

The Northern Pacific was one of the great trancontinental enterprises conceived in the war days, and at that time justly regarded as a vast and momentous undertaking. The extraordinary growth in wealth and railway mileage of the country seems now to dwarf the courage and daring which these efforts at railroad construction across the Rockies demanded, and today the Northern Pacific is merely one of six huge systems which connect the Pacific with the Mississippi Valley.

Involved in, and in part the cause of, two great national disasters, the history of the Northern Pacific is one of the colorful chapters of American railroading and finance. From the chaos of the last crash, that of 1893, the road has risen to phenomenal heights of prosperity, directly operating over 6,000 miles of railroad, possessed of interests of enormous value outside of railroading proper and today one of the richest and strongest railway corporations of the country. In later years it has come under practically the same ownership as its chief rival, the Great Northern, and is the principal property in what is commonly known as the Hill-Morgan lines.

History.

Chartered by Congress in 1864, construction was not begun until 1869. The road was given a collossal land grant, 12,600 acres to the mile in the states of Minnesota and Oregon, and 25,600 acres per mile in the then intermediate territories. Its dominating genius was Jay Cooke, who had come out of the war period as one of the chief of American financiers. The section from Duluth to Bismarck on the Missouri River was completed in 1873, and in the same year the banking house of Jay Cooke and Company went down, precipitating the panic of 1873. The road was involved in the fall of its backers, passed into the hands of a receiver, and was sold under foreclosure in 1875. The company had been monstrously over-capitalized, despite the enormous land grant which

it had received. When less than 600 miles was completed it had $100,000,000 of share capital, with $43,000,000 in bonds. Up to that time it was estimated that less than $22,000,000 had actually been spent upon construction, and a large part of this had been wasted. This was not one of the first, but it was up to that time, and for long after, one of the great scandals which gave American railroading and American securities so bad a name in Europe.

The Cooke regime was succeeded by that of Henry Villard, under whose direction the work of construction was aggressively resumed. In September, 1883 the last spike was driven, completing the line through to Puget Sound and the Pacific Coast. A boom whose proportions have only been exceeded by that of the last two or three years, ensued; vast crowds of settlers flocked to the Northwest; the earnings of the road grew like Jonah's gourd until in the climatic year of 1900-1 they had reached a total of $25,000,000 per annum, a tremendous sum compared with the general railway earnings of that time.

The collapse that followed can only be described as terrific. In the fiscal year closing June 30th, 1893, the earnings were still but a shade under $24,000,000; in the following year they had fallen to $16,500,000; and the net earnings, which had reached over $10,000,000 in the two years of 1890 and 1891, fell to a little over $4,000,000; that is to say, gross earnings fell a full third, and the net earnings a full two-thirds. The road passed again into bankruptcy, the Villard regime came to an end, and in 1896 the road was taken from the receivers by a syndicate headed by J. P. Morgan and Company, the Deutsche Bank of Berlin, and Drexel and Company. The reorganization was very throughly carried out, ample funds for the upbuilding of the road were provided, and from that period to the present time its earnings have risen steadily, reaching in 1906 the record figure of $61,000,000.

The average earnings per mile, which had fallen to $3,703 in 1894, reached in 1906, $11,335. About 2,000 miles had been added to the road, a huge surplus accumulated, and outside properties of enormous value acquired. The stock of the road, which might have been picked up ten years before for a few dollars a share, was in 1906 selling at over $200 per share.

Under the Villard regime the road had leased the Wisconsin Central, thereby acquiring an outlet to Chicago, but this was relinquished by the receivers and permanently abandoned in the reorganization of 1896. But in 1901, control of the Burlington was

jointly purchased by the Northern Pacific and the Great Northern, these two roads exchanging for about 98% of the stock of the lessee company their 4% collateral trust bonds, secured by a deposit of the stock so held. The exchange was on the basis of $200 per share. Since this purchase the earnings of the Burlington have very rapidly increased, and the Northern Pacific's half of the undistributed earnings of the Burlington comprises an asset of great value. Through this purchase the two roads obtained joint control of a line from St. Paul to Chicago, a strategic advantage which had been lost to the Northern Pacific through the surrender of the lease of the Wisconsin Central.

In 1901 the Northern Securities Company was formed for the purpose of harmonizing the interests of the northerly Pacific roads, acquiring 99% of the stock of the Northern Pacific, and about 75% of the Great Northern; and these two roads in turn controlled by ownership of stock, the Burlington system. This vast merger, carried out by Messrs. Hill and Morgan, raised a great outcry, and was violently attacked in the courts. The decision was adverse to the company on the ground that it was in effect the consolidation of competing lines; and the stock which it had acquired was returned to its original owners.

The immediate occasion of the formation of the company was the attempt of the Harriman-Union Pacific interests to secure control of the Northern Pacific through purchase of its stock. This attempt resulted in the famous Northern Pacific "corner" of 1901, when the stock sold up to as high as $700 to $1,000 per share. The Union Pacific interests had acquired an actual majority of the stock, but their purpose was defeated through a clause in the articles of the reorganization, whereby the preferred stock could be retired at any time at the pleasure of the company. This was done and the Hill-Morgan interests retained and still retain control of the road.

In 1901 the Canadian branches, in Manitoba, aggregating 354 miles, were leased for 999 years to the Provincial government and sublet by the latter to the Canadian Northern Railway at a rental of $210,000 for the first ten years, with the option of purchase at any time for $7,000,000.

The merger of several small roads in Washington since 1898, has restored to the road all of the mileage comprised in the old Northern Pacific system prior to the receivership of 1893, and in 1900 the St. Paul and Duluth was merged and its bonded debt was

assumed. The purchase carried with it rich ore lands in the Mesaba range.

In 1906 the Portland and Seattle was under construction, under the joint ownership and control of the Northern Pacific and the Great Northern, designed to give these two roads a low-grade line from Spokane through to tidewater at Portland.

Ownership.

By 1901 James J. Hill had entered the directorate of the Northern Pacific and the alliance of the Hill interests with the Morgan interests was openly declared. After the defeat of the merger plan, Mr. Hill retired from the directorate and was succeeded by his son, James N. Hill, afterwards made first vice-president of the road.

The dominance of the Hill-Morgan interests is reflected in the directorate, which includes J. P. Morgan, Jr., Charles Steele, and George W. Perkins, of the firm of J. P. Morgan and Company, directly representing the Morgan interests; George F. Baker, president, and D. Willis James, a director of the First National Bank, New York; John S. Kennedy, also a director in the Burlington and vice-president of the Northern Securities Company; Lewis Cass Ledyard, vice-president and director of the American Express Company, also a director of the Boston and Maine; Grant B. Schley, also a director of the New York, Ontario and Western; William Sloane, of the firm of W. & J. Sloane, New York; William P. Clough, 4th vice-president and general counsel of the Northern Securities Company; Amos Tuck French, vice-president of the Manhattan Trust Company, New York, and also a director in the Burlington; Alex. Smith Cochran, and Payne Whitney, of New York; Howard Elliott, president, St. Paul; and James N. Hill, vice-president, New York.

The executive committee comprised George F. Baker, William P. Clough, Charles Steele, D. Willis James, John S. Kennedy, Howard Elliott, and James N. Hill. It will be seen that the Harriman-Union Pacific interests are not represented on the board. On June 30, 1905, the Oregon Short Line, holding company for the Union Pacific, owned in effect, $29,390,885 of the capital stock of the road, but it is understood that a large part, if not all of this interest was subsequently sold.

In the actual management of the road, President Hill of the Great Northern, is regarded as the controlling mind, and to all

intents the Great Northern, the Northern Pacific, and the Burlington are operated as a single system.

Capitalization.

As of June 30th, 1906, the capital account of the road stood as follows:

Common stock	$155,000,000
Funded Debt (not inc: Gt. Nor.-N. P. Joint Col. bonds)	186,345,812
Total Capital	$341,345,812
Securities held	19,980,878
Approx. Net Capital	$321,364,934
Approx. net capital. per mile	$59,512
Average miles operated	5,401
Net earnings on net capitalization	9.6%
Stock on net capitalization	48%
Fixed Charges on Total net Income	29%
Factor of Safety	71%

The above estimate does not include $107,612,600, the Northern Pacific's half of the 4% collateral bonds issued for the purchase of the Burlington, but does include the funded debt of several subsidiary roads now merged with the Northern Pacific.

As a part of the securities held is included the value of the leased lines in Canada leased to the Province of Manitoba, and under contract of sale for $7,000,000 at the option of the lessees.

It will be seen that the mileage capitalization is high compared with other of the north Pacific transcontinental lines, its $59,512 per mile comparing with $42,362 for the Great Northern, $28,613 for the Canadian Pacific, and about $50,000 for the estimated net capitalization of the Union Pacific. Although this capitalization is high for a road of the character of the Northern Pacific, its earnings have been so enormous within recent years that the capitalization is actually low when compared with earnings, the net earnings showing 9.6% on the estimated net capitalization. This figure compares with 10.1% for the Great Northern; 9.4% for the Canadian Pacific; and around 8% for the Union Pacific.

Of the net capitalization, nearly one-half is made up of stock, and the Fixed Charges are extremely low, consuming in 1906, less

than 30% of the total net income, leaving a Factor of Safety for the underlying securities, of about 70%. This showing, as will afterwards be seen, was not accomplished through any skimping of operating expenses.

Equities Owned.

Of the items of securities held, as already noted, $7,000,000 is represented by the price fixed upon the leased lines in Canada; the balance is made up principally of stocks and bonds of smaller subsidiary companies, representing no equities of moment.

But the Northern Pacific has at least three other great interests, aggregating in value from $100,000,000 to $150,000,000, not included among the items of securities owned nor deducted from the estimated capitalization.

The first of these is what remains of the collossal land grants, donated to the road by the national government. From these there has already been derived from cash sales an enormous sum, probably sufficient to have more than paid the entire actual cost of the road.

At the present time nearly ten million acres of this land still remain. In 1906, 141,000 acres were sold for which the road received $1,110,000, or an average of nearly $8 per acre. Were the remaining lands to be valued at no more than half this amount, or at $4 an acre, they would still represent an asset of nearly $40,000,000. In addition to the above the road had outstanding contracts on land sales amounting to $4,000,000. From the land sales of 1906, $1,088,000 was carried to the credit of "The Northern Pacific Estate," the designation in the reports of the item usually known as "Cost of the Road," the amount so credited being deducted from this capital account. This amount does not appear as part of the income of the road and applies in the reduction of the new mileage and other charges to capital account.

This sum is not included as a part of the estimate of the total net income of the road.

The second of the Northern Pacific's large equities is its interest in the surplus earnings of the Burlington, over and above the amount required to pay the interest on the joint collateral trust bonds. A full discussion of this equity is to be found in the analysis of the Burlington road, and it is there shown that the actual surplus over and above reasonable maintenance charges was for 1906 around eight or nine millions of dollars. At least half of this might legiti-

mately have been divided between the two proprietary roads, and had no more than this been done, the Northern Pacific could have added at least two million dollars to its "other income" for 1906. It is likewise shown that upwards of twenty million dollars has been earned by the Burlington and put back into the road since the joint purchase, and half of this may be legitimately included in the estimate of the Northern Pacific's equity.

It is extremely difficult to fix a valuation on an asset which may be arbitrarily determined among the controlling interests of the Great Northern and Northern Pacific, but in the event of the sale of the Northern Pacific's Burlington interest, it is not improbable that it would receive the equivalent of at least $30,000,000 in some form or other, and possibly very much more. Roughly speaking, this asset might be assessed at from thirty to forty million dollars. Thus far the Northern Pacific has received nothing directly from its purchase of the Burlington and its guarantee on the purchase bonds.

The third of the Northern Pacific's holdings are the rich ore lands in the Mesaba range acquired through the purchase of the St. Paul and Duluth. These are nothing like the holdings of the Great Northern, in extent or value, but they are still estimated to contain in the neighborhood of 36 million tons of iron ore. On the basis of the lands yielding no more than the sum fixed in the Great Northern's contract with the U. S. Steel Corporation, the average rate, if this amount of iron were mined in 24 years, would be at least $1.25 per ton, which would give a total valuation to the property of upwards of $40,000,000. It should be understood that only very vague estimates can be made of the actual quality of ore contained in these holdings. It is probably safe to say that the actual value of this land is at least half the gross estimate, and if it were assessed at $20,000,000 this would be well within its true worth.

Were these ores mined at a rate to exhaust the nominal estimate of their amount in from 24 to 38 years, this would mean average receipts to the Northern Pacific of upwards of one and a half million dollars per year, or equivalent to about one per cent. annually on the outstanding amount of Northern Pacific stock.

In addition to the holdings enumerated above, the balance sheet of the road showed $5,600,000 advanced to the Portland and Seattle Railway, now under construction jointly by the Northern Pacific and the Great Northern, and over and above its current

liabilities, improvement fund, etc., the balance sheet for 1906 showed quick assets, excluding materials on hand, of upwards of $7,000,000, an insurance fund of $2,000,000, and a balance of land department assets of $3,200,000. Taking all these assets and equities at the most conservative valuation they still showed as follows:

Farm lands	$40,000,000
Ore lands	20,000,000
Burlington equity	30,000,000
Leased lines	7,000,000
Treasury securities	13,000,000
Seattle and Portland Railway advance	5,700,000
Balance of current assets	7,000,000
Land Department and insurance fund	5,200,000
Making a total of	$127,900,000

This would be the equivalent of three-quarters of the capital stock of the company. These valuations, it should be understood, are simply vague estimates, and would of course be very materially scaled under less prosperous conditions than those of 1906. Under favorable conditions it is probable that the estimates given are within 33% more or less of the realizable value, providing the properties were held, and the Northwest should undergo no such drastic set back as followed 1893.

Increase of Capitalization.

Since the reorganization of the company in 1896, there was no increase in its capital stock, the preferred stock simply being retired at par on January 1, 1902, for an equal amount of common stock. Moreover, up to 1906 there was but a very slight increase in the funded debt, while in six years its earnings have increased enormously. The items appear as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1900....	$80,000,000	$75,000,000	$171,346,596	$326,346,596	$30,021,318
1906....	155,000,000	(retired)	186,345,812	341,345,812	61,223,475

Increase over six years: Total capital, 5%; gross earnings, 104%

It will be seen that with an increase of capitalization amounting to less than 1% per annum, gross earnings of the road have more than doubled. Nothing could better indicate the simply fabulous prosperity of the Northern Pacific's territory within this period.

At the close of 1906 $93,000,000 of new stock was issued to subscribers at par, to the extent of 60% of their holdings, payments to be made in quarterly installments extending to January 1st, 1909.

Character of Traffic.

The Northern Pacific does not separately itemize its traffic. Passenger earnings in 1906 amounted to about one-quarter of the gross, and freight earnings to a little less than three-quarters.

The average rate per ton-mile was high compared with eastern roads, amounting to .83c. per ton per mile. This was against an average rate of 1.11c. through the depression of 1893-7, and of 1.05c. in 1899, which was general bedrock for the railroads of the country. In other words, since the reorganization the average rate has declined more than 25%, so that the extraordinary earnings are not due to an increase in the rates. But in spite of this heavy reduction in the average, rates are still 25 or 30% higher than the general average of roads east of the Mississippi, and while these rates could probably be maintained in highly prosperous years like 1900-06, it is fairly certain that they would have to be still further reduced under less favorable general conditions.

It goes without saying that a very large part of the Northern Pacific's traffic is the carriage of grain and especially of wheat. But as the mineral resources of Minnesota, Montana, Idaho and Washington steadily develop, especially in the direction of coal and iron and as the Pacific carrying trade from the Puget Sound ports increases, the road will be less and less dependent upon the wheat fields for its earnings. The steady natural gain of traffic should certainly be sufficient to offset the progressive reduction in the rates, which will doubtless continue until they have reached somewhere near the general average of the country.

It seems to be the intention of President Hill to make the Great Northern more and more of a freight road, turning over the tourist traffic more to the Northern Pacific, to which the latter lends itself more especially, while the lower grades on the

Great Northern permit of much more profitable freight haul, at lower rates.

Stability of Earnings.

In the following table is given the record year of the Villard management, that of 1890-1, the panic year of 1893-4, the last year of the receivership, and the nine full years that have ensued since the reorganization of 1896:

Year	Miles Operated	Gross Earnings	Per Mile
1890–1............	4,222	$25,151,544	$5,941
1893–4............	4,468	16,527,210	3,703
1895–6............	4,404	19,863,160	4,509
1897–8............	4,362	23,679,118	5,428
1898–9............	4,579	26,048,673	5,688
1899–0............	4,714	30,021 318	6,368
1900–1............	5,100	32,560,984	6,384
1901–2............	5,019	41,387,380	8,246
1902–3............	5,112	46,142,105	9,026
1903–4............	5,262	46,524,574	8,841
1904–5............	5,315	50,722,886	9,543
1905–6............	5,401	61,223,745	11,335

(Year of 1896–7 reported only for 10 months.)

Under the Villard regime gross earnings had reached, in 1889-90, $6,272 per mile. These mileage earnings in the panic year were nearly cut in two, declining to $3,703 per mile. In the last year of the receivership they were $4,509, and in 1906, $11,331. In American railroad history, there are few more remarkable records of a swift and devastating slump and an almost pyrotechnic rise, the increase for the single year of 1906 amounting to $1,790 per mile, or a clean increase of nearly 20%. It goes without saying that these have been years of exceptional prosperity, and that the same rate of increase could hardly be maintained indefinitely. But the road is to-day in a position of such exceptional strength that it could readily meet some recession from this rapid growth without feeling the pinch.

Maintenance.

The following table reveals the extraordinary growth in the traffic density of the Northern Pacific within no more than six years. Within this period the ton mileage per mile of road operated has doubled, but it will be seen that the maintenance charges have been increased by nothing like this. The items stand as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	478,561	$1,027	$481	$1,508
1901–2	657,551	1,348	678	2,026
1902–3	746,467	1,392	760	2,152
1903–4	700,432	1,263	782	2,045
1904–5	820,257	1,382	951	2,333
1905–6	971,344	1,387	1,098	2,485
Average....	729,102	$1,300	$791	$ 2,091

Burlington....	580,024	1,104	1,032	2,136
Can. Pac......	458,589	850	1,002	1,852
Gt. North.....	650,321	960	594	1,554
Union Pac....	739,206	1,173	1,049	2,222
Atchison......	577,005	1,123	1,113	2,236
Sou. Pac......	594,898	1,446	1,246	2,692

It will be seen that had maintenance been increased at a parallel rate with the increase of traffic, charges for 1906 would have been over $3,000 per mile, while as a matter of fact they were $500 a mile less than this.

Comparing the Northern Pacific's charges with the Burlington, it will be seen that with a traffic density averaging through these six years about 25% more than the Burlington, its average maintenance charges were slightly less. In 1906 the Burlington maintenance was $319 per mile more than the Northern Pacific's, with a 25% lower traffic density. The discrepancy on a basis of equal traffic, amounted to a full thousand dollars per mile. It is not easy to see why two roads not differing so very widely in territory, nor in character of traffic, should present so wide a difference in maintenance charges.

Undoubtedly the Burlington's charges were high, but the difference is so great as at least to suggest a doubt if any considerable amount of earnings were concealed in the Northern Pacific's charges. The charges were probably adequate; they hardly seem excessive. They were, it is true, considerably higher than those of the Great Northern, but it must be remembered that the Great Northern is one of the roads showing operating expenses of only 50% of gross, against a general average of the country of 68%; and it will almost invariably be found that such a showing is obtained at the expense of maintenance charges.

It is improbable, for example, that the Northern Pacific can be maintained satisfactorily at a much lower figure than the Atchison. The Atchison shows about the same average traffic density over these six years as the Burlington, and its average maintenance charges for this period are slightly higher than the Burlington's. This again means that there is a difference in maintenance charges on a basis of equal traffic, of about $1,000 per mile of road between the Atchison and the Northern Pacific. This need not mean that the Northern Pacific's maintenance has been skimped, but it does mean that on a similar basis of charges the Northern Pacific's surplus would have been four or five million dollars less, or the Atchison's surplus would have been six or seven million dollars more, than they were in 1906. It means at least that the surplus shown by the Atchison or the Burlington was on a much sounder basis than that of Northern Pacific, while Northern Pacific was on a much sounder basis than the Great Northern or the Canadian Pacific.

Improvements from Earnings.

With the Northern Pacific, as with so many other roads, however, the maintenance charges represent only a part of the actual amount expended in the maintenance and improvement of the road. In addition to the charges shown, the following sums since the reorganization have been appropriated from earnings for betterments:

1897-8	$811,709
1898-9	2,176,619
1899-0	3,000,000
1900-1	2,011,285
1901-2	3,000,000
1902-3	3,000,000
1903-4	3,000,000
1904-5	3,000,000
1905-6	6,081,980
Total	$26,081,593

This is a solid sum and the appropriations in 1906 were especially heavy. In 1906, in addition to the $3,000,000 regularly set aside for some years for betterments, $2,000,000 was written off on account of the depreciation of equipment, and $1,081,980 was diverted from the earnings for insurance fund.

Since 1900 these special appropriations total over $20,000,000, which stands for example against similar appropriations in the same period of $18,057,700 for the Atchison, and $15,130,910 for the Great Northern, and nothing at all on the Burlington.

While therefore the maintenance charges on the Northern Pacific for 1906 were hardly up to the standard of previous years, and that standard not excessively high as compared with other roads, this difference has been fully offset by the heavy appropriations from earnings, and here as always, investors will be on their guard against being deceived by mere bookkeeping appearances.

Surplus Earnings.

The surplus for six years before charging off special appropriations noted above has shown as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1900–1	$9,213,904	4	7.8	4	113
1901–2	13,047,232	1 (Retired	8.4	5½	...
1902–3	14,745,889	Jan. 1, 1902)	9.5	7	...
1903–4	15,229,311	–	9.8	6¾	...
1904–5	17,126,242	–	11.4	7	190
1905–6	22,487,740	–	14.5	7	205

The surplus of 1906 was sufficient to pay the regular 7% dividend on the stock, set aside $3,000,000 for betterments, charge off $2,000,000 for depreciation of equipment, turn $1,081,000 into the insurance funds, and carry $5,500,000 to the credit of Profit and Loss for the operations of the year.

But it has already been noted that had the Northern Pacific been maintained on the same liberal scale, let us say, as the Burlington, or the Atchison, this would have made a difference of between four and five million dollars in the surplus shown, or sufficient to wipe out the larger part of the net surplus over dividends and appropriations. Were such a reduction to be made the nominal amount earned on the stock would have represented between ten and eleven per cent. instead of fourteen and a half. Considering the high standard of maintenance which has been set within recent years on American railroads, it is probable that this represents more nearly the actual earnings for the stock than the nominal percentage shown in the table.

The Balance Sheet

At the close of the fiscal year of 1906, the road showed:

Current assets, not including materials on hand	$26,646,767
Current liabilities	18,871,684
Leaving a working balance of	$7,775,083

Of the current assets shown, $22,000,000 was clear cash. Nothing could better illustrate the prosperous condition of the road. Over and above these were the insurance funds, sinking fund, land department assets, advances to the Portland and Seattle Railway, etc., which would carry the quick assets to about $13,000,000. The amount to the credit of Profit and Loss (excess of earnings and miscellaneous income over all payments from September 1st, 1896, to June 30th, 1906) was $19,936,979.

Dividend Record.

In its old days Northern Pacific dividends were erratic and rather spare. Since the reorganization dividends were paid on the preferred stock from 1898, and on the common from 1899. The record for a series of years is as follows:

Year.	Preferred. %		Common. %
1883	11.1 in certificates due 1888.		
1884-9	—		
1890-1	4		
1892	2		
1893-7	—		
1898	5		
1899	4		2
1900-1	4		4
1902	1	(final; stock retired)	5½
1903	—		7
1904	—		6 and ¾ extra.
1905-6	—		7

The subscription rights to the new issue of stock at the close of 1906 was equivalent to a cash dividend of from $19 to $23 per share.

The Northern Pacific has joined with the Great Northern Railway in the construction of a new line from Spokane and eastern Washington, down the Columbia to Portland. This is designed to cut out the severe grades on the two roads which lie mainly in the Cascade Mountains. The new road is more distinctly a low grade freight line, and its construction and possibilities are discussed in the analysis of the Great Northern.

Investment Value.

The Northern Pacific is another of the roads which, like the Atchison, the Reading, the Union Pacific, and so many others, has shown such a phenomenal rise in the value of its stock within a very few years. At the close of 1897, after more than a year of the operations of the reorganized company, the stock was still to be had for from ten to twenty dollars a share; in 1900 it was still to be had for as low as $45 per share. In that year 4% dividends on the common stock were begun. In 1901 came the famous "corner," when the Harriman interests endeavored to gain control of the road, and Mr. Morgan sent back his famous message from Europe: "Buy control and hold it." The stock, which was at the time selling a little over par, rose as high as $700 per share, and it was reported that some of the unfortunate individuals known as "shorts"; that is to say, people who had sold property that they did not own, settled on a basis of as high as $1,000 per share. Thereafter the stock was taken over by the Northern Securities Company, and quotations did not again appear on the stock exchange for three years and until the dissolution of the latter company.

In 1905 the stock ranged between $165 and $216 per share; in February of 1906 it was carried as high as $232 per share, falling in the very moderate slump that ensued in the spring to $179 per share. In the slump of March, 1907, it sold ex-rights at $115. Wide fluctuations like this are characteristic of stocks that have been largely bought with great expectations, and it was undoubtedly great expectations which lifted the quotations of the Northern Pacific to so high a figure. At the average price of 1906 the yield to the investor was rather less than 3½%. Doubtless, as a 7% stock, earning enough to pay all charges and needful appropriations, and still leaving enough for a margin of safety of 50% for its dividend, the Northern Pacific is entitled to sell well above $200 per share; just, for example, as does the Chicago and Northwestern.

Meanwhile President Hill, who so largely dominates its policy, has gone on record as saying that a 7% dividend was high enough, and that with more than enough to pay this comfortably, the public should have the benefit of a reduction in rates. Should President Hill's policy obtain, then it is not to increased dividends that the investor will look for adequate returns on his investment.

Turning to the Great Northern, we find another company under the domination of President Hill likewise paying 7%, with nominal earnings rather lower than those of the Northern Pacific, and selling in 1906 as high as $348 per share. Obviously such an enormous price as this was based upon expectations of some sort of a "melon-cutting," as the process of stock distribution has come to be called. If we inquire into the history of the Great Northern, we shall find that since 1899, when the stock was put upon a 7% dividend basis, the shareholders have received very valuable privileges or rights to subscribe to new issues of stock at very much below the market quotations. The actual quoted value of these rights in the eight years under view amounts to a total of about 77% on the stock, and was in reality worth very much more than this to shareholders who utilized their privileges instead of selling their rights. This is an average dividend for the eight years of very nearly 10%, which, added to the regular 7% dividend, has made an average return to Great Northern stockholders of nearly 17% per annum, or nearly two and a half times the nominal dividend. If a solid 7% stock sells for an average price of around $170 per share, Great Northern could reasonably have commanded on the basis of the actual return, well above $300 per share, or considerably above the average price.

Northern Pacific shareholders up to the close of 1906 had had no such valuable privileges. There had been no addition to the capital stock. It follows, therefore, that the premium which Northern Pacific commanded over and above the average price of a 7% stock has been based purely upon expectations and not upon accessory dividends. These expectations obviously were based, first, upon its large earnings; secondly, upon its equities. It has already been shown that, had only half the surplus earnings of the Burlington been distributed to its owners, this would have been sufficient in 1906 to pay an extra one and a half per cent. on the Northern Pacific stock. It has likewise been noted that

the lease of its ore lands might reasonably yield the road an average of about one per cent. on its capital stock per annum for the next twenty or thirty years.

It has been repeatedly rumored that the Great Northern would take over the Northern Pacific's share in the Burlington, and if this were done, this would undoubtedly mean a very considerable "melon-cutting" for the shareholders. It is possible that the ore lands might be sold to a subsidiary company, and the stock of this company likewise distributed to the shareholders. The investor in Northern Pacific, therefore, would be speculating in these two possibilities, receiving meanwhile an average return of about 3½% on the 1906 quotations, with every indication from the enormous earnings and satisfactory condition of the road that this dividend will be well earned and continue.

So far as an increased dividend is concerned, the investor will consider how far the pronunciamento of President Hill is likely to govern the board of directors. Dividends of more than 7% are not overly popular in Western States, so that it is much more likely that the surplus earnings and assets of the road will be distributed some other way. Although the memory of investors is notoriously shortlived, the recollection of the tremendous slump which occurred in 1893-4 has undoubtedly militated somewhat against Northern Pacific, and it is probable that in 1907 it was selling far below the figure which its tremendous earnings and enormous outside assets would amply justify.

If this is true, it may be asked why such a stock would sell down to $179 per share in so moderate a decline as that of 1906, and to $115 in 1907. The probable reason is that every stock which attracts a large speculative following, and is pretty clearly under manipulative influences, is liable to such heavy slumps; and this is especially true of Western roads. The investor will probably conclude that such slumps are liable to occur again, and that he is likely to have opportunities to purchase at attractive figures. Below $150 per share it is pretty certain that Northern Pacific is cheap, even though should any very heavy general decline, like that of 1903, recur, it might sell considerably below this figure. Conditions in the Northwest have vastly changed since the crash of 1893; the country is built up, its resources have been developed, and the earnings of the road ought to prove reasonably stable. In some minds the repetition of much such a boom as came in the eighties has brought some legitimate

apprehension, and it is not impossible that stock like the Northern Pacific will show very wide fluctuations within the next few years. But the road is now solidly entrenched, where before it was built upon scantling, and the investor who takes advantage of heavy slumps should they occur, and picks the stock up for safe-keeping, should realize handsome returns from his holding.

PENNSYLVANIA RAILROAD.

The Pennsylvania, as it is familiarly known, is not only the greatest railroad in America, but, in point of traffic and earnings, the greatest in the world. For the year of 1906 its gross earnings were nearly $150,000,000 for the Pennsylvania proper, and for the entire system nearly $300,000,000.

The operations of the system are on so enormous a scale that we need a standard of comparison. Its gross earnings, for example, are nearly equal to those of the four great "trans-continentals": the Southern Pacific, the Atchison, the Union Pacific and the Northern Pacific combined. For 1906 the net earnings were equal to those of the Illinois Central, the Burlington, the St. Paul and the Chicago & Northwestern combined.

In point of mere mileage the Pennsylvania is surpassed by several other American systems. Directly it operates a little less than 4,000 miles of main track, but the total for the entire system is over 11,000, and it has a potent voice in the control of nearly 6,000 miles more.

The total number of tons carried by the entire system in 1906 was 363,000,000, or nearly one-quarter of the entire tonnage of the United States. The mere increase for the year of 1906 over the year preceding amounted to 37,000,000, or almost equal to the entire tonnage of the New York Central Railroad.

In 1905 the total number of tons carried one mile by the Pennsylvania Railroad alone was 16,885 millions. This was an increase over 1904 of 2,662 million tons. In 1905 the Wabash Railroad carried a total of 2,339 million tons of freight one mile; the Lackawanna 2,714 million tons; the Delaware & Hudson, 1,782 million tons, and the Reading 1,324 million tons. In other words, the increase in ton mileage on the Pennsylvania was greater than the entire ton mileage of any of the roads named.

These figures are for the Pennsylvania Railroad alone. All the lines of the system carried in 1905 a total ton-mileage of 29,-503 millions. This was an increase of 4,372 million tons per mile. The mere increase was greater than the entire ton mileage of the

Union Pacific, of the North Western, of the Northern Pacific, or of the Great Northern for the year of 1905. Put in a different way, had any one of these systems been added to the Pennsylvania system as a new division, it would not have brought so great an increase in freight tonnage as came in the year from the ordinary growth of its business.

Including in its capitalization the stocks and bonds of its leased and operated lines, the gross capitalization of the Pennsylvania proper exceeds three-quarters of a billion dollars, and that of the entire system would bring the total high above a billion dollars. In this sense, the Pennsylvania may be considered to be the only billion dollar railroad in existence.

It is a huge holding company as well, having in its treasury on January 1st, 1907, securities of a book value of $194,000,000, yielding the road more than 6% on this amount. Accruing from the sale of securities during the year were over $15,000,000 profits, of which $13,000,000 was turned into the construction of the New York tunnels.

The capital expenditures for the entire system for the past seven years have been nothing short of colossal, being between 400 and 500 million dollars; but the results were commensurate with the outlay. In that time the gross earnings of the entire system have nearly doubled, rising from $152,000,000 in 1899 to $296,000,000 in 1906. The gross earnings of the second largest railway in the United States, the Southern Pacific, were in 1906 only $105,000,000. The increase in earnings for the Pennsylvania Railroad alone were for the seven years, $76,000,000, or more than the road's entire earnings in 1899 when President Cassatt took hold.

New York Central & Pennsylvania Comparisons.

It has often been said that under the Cassatt administration the Pennsylvania was an extravagantly run road, and the investigation by the Interstate Commerce Commission in 1906, revealing the existence of a deal of small graft, produced a painful impression. Nevertheless the Pennsylvania's aggressive policy has produced results, as the following interesting comparisons with its chief rival, the New York Central, for the operations of 1906, reveal:

		New York Central	Pennsylvania
Mileage		3,784	3,896
Approximate Net Capitalization		$466,000,000	$577,000,000
Approx. Capital per mile of road operated		$123,000	$145,000
Net Earnings on Net Capital		5.8%	8.1%
Gross Traffic Earnings		$92,089,768	$148,239,882
" " per mile		$24,336	$37,661
Increase (per mile) over 1905		8%	9%
do. over 1900		33%	70%
Freight Traffic Density (ton miles)		2,226,046	4,742,081
Maintenance per mile:	Way	$2,832	$4,738
	Equipment	3,850	6,725
	Total	$6,682	$11,463
Average Freight Rate		.64c	.64c
Average Train Load		403 tons	529 tons
Train Mile earnings		$2.59	$3.14
Fixed Charges		64%	38%
Surplus after charges		$12,275,260	$35,674,300
Per cent. of Surplus on Stock		8.2%	11.6%
Surplus App. for Imp.—7 years		$16,347,260	$63,652,929
Average Price in 1906		$139	$137
Dividend rate for year		5¼%	6½%

The per cent. of surplus for the New York Central is reckoned on $149,000,000 of stock on which dividends were paid during the year.

History

The Pennsylvania is one of the oldest railways of the country. It was originally chartered in 1848; its main line, built by the State of Pennsylvania, was opened in 1854, and operated at a loss until it was taken over by the present company in 1857. From this the road has grown steadily by accretion to its present enormous dimensions, partly by leases, partly by absorption, so that it now represents the consolidation of over two hundred smaller roads, the last notable addition being the Long Island Railroad. Besides the roads leased and operated, it owns outright or controls and operates under practically the same management, the Philadelphia, Baltimore & Washington, the Northern Central, the West Jersey and Seashore, and the Pennsylvania *Company.*

The Pennsylvania *Company* was chartered in 1870 for the purpose of managing, in the interests of the Pennsylvania Railroad Company, the various lines leased and controlled by that company west of Pittsburg. It operates directly the old Pittsburg, Fort Wayne and Chicago Railroad, and owns a controlling interest in the Pittsburg, Cincinnati, Chicago and St. Louis (known as the "Panhandle"); the Vandalia (a recent consolidation of smaller lines); the Grand Rapids and Indiana, and a number of smaller roads. The Pennsylvania Railroad owns the entire stock of the Pennsylvania Company ($60,000,000).

The Pennsylvania dominates the great centers of coal and iron production in the United States. Up to recently it has had practically a monopoly of the Pittsburgh district, the greatest freight traffic center in the world. Though it is not, like the Reading, the Lackawanna and other coal roads, a great holder of coal lands, still, its coal properties are extensive, and it is to be ranked as one of the great "coalers."

The affairs of the Pennsylvania were deeply involved in the disastrous "freight-wars," which, through the '80s, characterized the railroads of the United States, and which brought the Reading, the Erie, the Baltimore & Ohio, and so many others to bankruptcy in 1893-6. It was this which led the Pennsylvania to take the lead in the development of the "Community of Interest" idea, which has brought about a marked stability of rates and earnings, and in many cases a direct increase of rates.

The idea involved the purchase of the stocks of other lines, so as to bring about, if not actual control, at least an important voice in the management. The result is that the Pennsylvania is now not only the chief traffic road of the country, but one of wide influence. The cost of the securities of other lines which it held, prior to the extensive sales of 1906, amounted to nearly a quarter of a billion dollars, or more than the gross capitalization of many important systems.

The Pennsylvania's largest single holding (partly through the Pennsylvania Company), was in the Baltimore & Ohio, with over four thousand miles of railroad. As on January 1st, 1906, it owned 71 millions out of the then outstanding 184 million dollars of the capital stock of the latter road. One-half this holding was sold during the year and acquired by Harriman-Union Pacific interests.

The Baltimore and Ohio, in its turn, owns, with the Lake Shore (New York Central), half of the "working control" of the Reading, the Pennsylvania's most direct competitor; and the Reading owns a controlling interest in the Central Railroad of New Jersey, another direct competitor of the Pennsylvania. The Pennsylvania owned, again with the Lake Shore, about half of a controlling interest in the Chesapeake and Ohio Railroad, and up to late in 1906 it likewise owned 33 millions out of 87½ million dollars of the stock of the Norfolk and Western, practically controlling that road, though one-half this interest has been disposed of. It also owns (through the Panhandle) one-third of

the control of the Hocking Valley Railroad, the balance being distributed through several roads. Through the Reading it is represented on the Board of the Lehigh Valley, so that the Erie and the Lackawanna were the only roads in its more immediate territory not more or less under Pennsylvania's influence.

Philadelphia & Erie

In January, 1907, the Pennsylvania completed arrangements for the merger of the Philadelphia & Erie, operating 307 miles of track between Sunbury, Pennsylvania and Erie, with 157 miles of double track. The line was already leased to the Pennsylvania Railroad for 999 years, actual net receipts being paid as rental. A majority of the stock was held by the Pennsylvania Railroad, and an offer was made to exchange the balance of the outstanding Philadelphia & Erie common stock dollar for dollar for Pennsylvania Railroad stock.

After liberal maintenance charges the surplus for 1906 showed 10% for the common stock and 6% in dividends were paid. It was obvious from this that the offer made by the Pennsylvania Railroad was amply justified, and, on the other hand, it was attractive to the shareholders of the Philadelphia & Erie.

When the merger is completed this will add 307 miles of line owned to the Pennsylvania Railroad, with gross earnings in 1906 of $8,342,875, and about the same in 1905. The exchange of stock will add $10,385,000 to the Pennsylvania Railroad's stock and $19,823,000 of indebtedness. In 1907, after liberal maintenance charges, net earnings on the Philadelphia & Erie showed 7% on its total capital, a figure slightly under the showing for the Pennsylvania Railroad for the same year.

The Philadelphia & Erie balance sheet showed an excess of current assets over liabilities of about $700,000, or, including the renewal fund, of nearly $1,000,000. The property was obviously well worth the purchase price.

Ownership.

The Pennsylvania Road has the distinction of having a larger number of shareholders than any other road in the United States. The number of record in 1905 was 44,175. It is neither owned nor controlled by any single individual or family, but represents more completely than any other great road ownership by the people.

From June of 1899 to the close of 1906 the directing genius of the Pennsylvania was Alexander J. Cassatt, and to his strong and aggressive personality the broad and vigorous policy of expansion of the road through these years was due. Shortly before President Cassatt's death, H. C. Frick, of Pittsburgh, was chosen a director, and by many was looked upon as President Cassatt's possible successor. Instead, however, James McCrea, Vice-President of the Pennsylvania Company, at the head of the Pennylvania's Lines West, and a close personal friend of Mr. Frick, was chosen. Already popularly regarded as the largest single stockholder in Reading, it is generally assumed that Mr. Frick will have an important voice in the Pennsylvania's councils. As a member of the executive committees of the Chicago & North Western and Union Pacific, and a director of other lines, he had already become a powerful factor in railway affairs, being closely associated in the public mind with Mr. Harriman, H. H. Rogers and Wm. Rockefeller; and in close association with these gentlemen is the banking house of Kuhn, Loeb & Co., which acts as the fiscal agent of the Pennsylvania, although its head, Jacob H. Schiff, is not a member of the Pennsylvania board.

Through the Union Pacific's purchase of an extensive holding in the Baltimore & Ohio and likewise in the New York Central, the Harriman influence is added to the already extensive large holdings of the Standard Oil interests in the New York Central and the Lackawanna. Mr. Harriman is a director in the Baltimore & Ohio and also in the Erie and the Delaware & Hudson, and with Mr. Frick in the Reading and Norfolk & Western, and Mr. Rockefeller and Mr. Stillman in the New York Central, it will be seen that the leading interests in the control of the larger Eastern roads are becoming more closely associated than ever.

Besides Mr. Frick, the Pennsylvania's directorate was made up of its four vice-presidents, John P. Green, Charles E. Pugh, Samuel Rea and John B. Thayer; Alexander M. Fox, N. Parker Shortridge, Clement A. Griscom, Chas. E. Ingersoll, William H. Barnes, George Wood, C. Stuart Patterson, Effingham B. Morris, Thomas DeWitt Cuyler, Lincoln Godfrey and Rudulph Ellis. All of these are residents of Philadelphia and its environs.

There is no "largest single holder" known. It will be seen from this list that there are no "representatives" of other large roads on the Pennsylvania's board; on the other hand, the Penn-

sylvania interest is represented on the boards of the Baltimore & Ohio, the Chesapeake & Ohio, the Norfolk & Western and other roads, proportionate to its holdings.

Capitalization.

Though the nominal capitalization of the Pennsylvania is very large, it directly owns but 1,200 miles of main track, the remaining 2,575 miles being operated under lease or as agent. From this it results that the Pennsylvania pays a larger amount annually in rentals than in interest on its bonded debt. The nominal capitalization, therefore, is far from its true capitalization, the stocks and bonds of its leased and operated lines amounting to much more than the nominal bonded debt.

It would be a very difficult task to determine the actual amount of this subsidiary capitalization, but it may be obtained approximately by the method followed in this work, of capitalizing the rentals on the basis of 4%. The rentals paid in 1906 amounted to $12,346,754. With the sum obtained from the capitalization of this amount, the capital account of the Pennsylvania stood as follows, January 1st, 1907:

Capital stock	$305,951,350
Funded debt	191,561,270
Car trusts (net)	45,141,362
Water certificates	10,000,000
Nominal capital	$552,653,982
Rentals capitalized at 4%	278,537,500
Approx. gross capitalization	$831,191,482
Securities held	254,063,313
Approx. net capitalization	$577,128,169
Approx. net capital. per mile	$145,566
Average miles operated	3,896
Net earnings on net capital	8.1%
Stock on net capitalization	53%
Fixed charges on total net income	38%
Factor of Safety	62%

Included under the item of "Securities held" were the stocks and bonds of other corporations valued at $194,769,719. The

balance comprised the sums due on the sale of Norfolk & Western and Chesapeake & Ohio stocks, loans for construction to subsidiary companies and $28,835,033 charged to the New York Tunnel extension.

In addition to its nominal capitalization, the Pennsylvania's guaranties at the close of 1906 covered $383,000,000 of other outstanding securities. Of this, by far the larger part, $237,000,000, was on the lines west of Pittsburgh and Erie and $22,408,000 was on the refunding mortgage bonds of the Long Island Railroad. This left guaranties to the amount of $124,000,000, of which the larger part was on lines leased or operated by the Pennsylvania Railroad, and therefore forming a part of the $278,000,000 capitalization of leased lines, appearing in the above table and computed on the basis of rentals paid.

If to this $383,000,000 of securities guaranteed be added the nominal funded debt of the company, $191,000,000, and the gross amount of car trusts and water certificates outstanding, for which the Pennsylvania Company is primarily liable, $81.000,000, it would appear that the total of the company's obligations were about $665,000,000, while, if to this be added the further $60,000,000 of notes sold in February, the total, early in 1907, exceeded $700,000,000.

The dividend and interest payments on these guaranteed securities amounted in 1906 to $7,868,529 on the Lines East and $12,292,991 on the Lines West. The larger of these guaranties and payments thereon were as follows:

Long Island Railroad	$22,408,000	$ 896,320
Philadelphia & Erie RR	16,143,000	798,350
United New Jersey stock	21,240,400 20,000,000	788,475
Pennsylvania Company	130,203,548	4,971,960
Pittsburg, Ft. Wayne & Chic.	57,088,785	3,996,215

It will be seen that the item of securities, carried at cost, but actually worth much more, balanced within about $24,000,000, the sum derived from the capitalization of the rentals of leased lines. The estimated net capitalization, therefore, is not very much higher than the nominal amount of the stocks and bonds of the Pennsylvania proper.

On the basis of total mileage operated, the approximate net capitalization averaged $145,566 per mile. This is about two and one-half times the average mileage capitalization of Ameri-

can roads and is exceeded by but few lines. The figure for the Pennsylvania compares with $161,742 for the Reading, the highest of any of the leading American roads; $132,789 for the Lackawanna, $97,241 for the Baltimore & Ohio and $123,188 for the New York Central. But the gross earnings per mile of both the Reading and the Lackawanna are considerably higher than the Pennsylvania's, while the Pennsylvania's earnings in turn greatly exceed those of the New York Central.

When the estimated net capitalization is compared with the net earnings, the Pennsylvania earns net 8.1% on its capitalization. This figure compares with 13.7% for the Lackawanna, 10.8% for the Reading, 7.1% for the Baltimore & Ohio, and 5.8% for the New York Central; the general average for all American roads being about 6%.

It will be seen that the Pennsylvania capitalization, on the basis of earnings, is high as compared with the Reading and the Lackawanna, but much below that of the New York Central.

Style of Capitalization.

But the Pennsylvania's arrangement of stocks and bonds is such that its Fixed Charges, compared with its total net income, are low. If to the $191,561,270 of funded debt of 1906 and $45,-141,362, the net amount of outstanding car trusts, were added the $278,537,500, estimated capitalization of leased lines, on the basis of rentals paid, we have a total equivalent to a funded debt of $515,240,132. This amount stands against $305,051,350 of stock. Taking out the value of the securities held, the stock represents about a full half of the estimated net capitalization, as against, for example, only 38% on the New York Central.

From this it results that Fixed Charges, including all rentals, consumed in 1906 only 38% of the total net income, leaving a margin of safety for the underlying securities of 62%. This figure compares with a similar estimate of safety for the Reading's underlying securities of 55%; of 62% for the Lackawanna, and of only 36% for the New York Central.

But even this strong showing does not correctly represent the strength of Pennsylvania securities. First of all, two-thirds of the rentals paid by the Pennsylvania are on a basis of the net earnings of the lines operated, and are to this extent variable and not fixed. Excluding this item, the actual fixed charges of the road in 1906 were only a little over sixteen million dollars.

Even if we add car trust and sinking fund payments, they were only a little over twenty million dollars. It follows, therefore, that the total net income of the road could be cut down at least three-fifths before payments on its bonds and leases would become impaired. The "Factor of Safety" of Pennsylvania securities may be reckoned as in reality much above 60%, which compares with a general average for the country estimated at 40%.

Equities Owned.

At the close of 1906 the Pennsylvania Railroad held in its treasury stocks to a par value of $237,362,917 and bonds to a par value of $41,663,602, or a total of $279,026,519. These securities were carried on the books at their cost, $194,769,719.

From these securities the company received in 1906, $11,741,184, or an average return of 6.0% on its investment. In addition to this return the company's equities were considerable.

The largest single item of these holdings is $60,000,000 par value of the subsidiary Pennsylvania Company, the entire capital stock. In 1906 the net income of the Pennsylvania Company was $8,933,888, nominally 14.8% on the capital stock, so that the company was comfortably earning its 6% dividend and might even have paid 7% and still kept within the Pennsylvania's traditional policy of a dollar for dividends, a dollar for improvements.

The next largest holding was $23,490,775, practically the entire capital stock of the Philadelphia, Baltimore & Washington, comfortably earning considerably more than 10% on its capital stock and paying 4%. See that road.

Outside of stocks and bonds of the companies included in the Pennsylvania system, the principal items were:

Baltimore & Ohio, common........	$5,725,000	(par value)
" " preferred.......	14,273,600	" "
Norfolk & Western common.......	6,246,000	" "
" " adjustm't pfd..	3,246,000	" "
Long Island......................	6,797,900	" "

During the year the Pennsylvania disposed of all its holdings in the Chesapeake & Ohio, $10,130,000, par value, and the larger part of its holdings in the Baltimore & Ohio and Norfolk & Western, so that the balance remaining was very small as compared with the total stocks of these two companies.

The subsidiary Pennsylvania Company at the close of 1906, had securities carried on its books at a cost value of $222,321,320, which included chiefly the stocks of the Pittsburgh, Fort Wayne & Chicago, the Pittsburgh, Cincinnati, Chicago & St. Louis, the Vandalia, the Grand Rapids & Indiana and other companies, included under the designation of the "Lines West". Against these securities was a funded debt, including $50,000,000 of improvement notes, of $180,203,548.

On the securities held, the Pennsylvania Company received in 1907, $7,634,271, or an average return on the book valuation of 3½%. Its equity in the undistributed profits of its subsidiary companies was, however, considerable.

The Pennsylvania Railroad's income of $11,741,184 from its securities owned was equivalent to more than 3% on its outstanding capital stock, and as this was considerably less than the actual earnings of these securities it may be regarded as solid income. The company might therefore have ascribed 3% of its 7% dividend in 1907 to dividends from investments, leaving only 4% to be earned by the Pennsylvania Railroad proper. The nominal surplus earnings of the railroad proper were in 1906 equal to 7.8%.

Increase of Capitalization.

Since the accession of President Cassatt in June, 1899, the increase in the nominal capitalization of the road has been very heavy. The items for the close of 1899 and of 1906 compare as follows:

Year	Common Stock	Funded Debt	Total Capital	Securities Held	Gross Earnings
1899...	$129,305,500	$88,144,511	$217,450,011	$119,690,736	$72,922,984
1906...	305,951,350	191,561,270	497,512,620	194,769,719	148,239,882

Increase over seven years: Total capital, 129%; gross earnings, 103%.

It will be seen from the above that in the seven and a half years of President Cassatt's administration, the Pennsylvania Railroad proper considerably more than doubled both its capital stock and funded debt. The total increase of stocks and bonds was $280,000,000. Against this, the increase of securities owned was $85,000,000, leaving a net increase of stocks and bonds on the road of $195,000,000.

In 1899 the nominal amount of stocks and bonds, deducting securities owned, amounted to $34,600 per mile of road operated. In 1906 this sum had increased to $77,700.

Earnings, it will be seen, did not increase correspondingly with the nominal capital, but if the capitalization of 1899 be estimated in the same fashion as in the preceding pages, it will be found that this anomalous result disappears. The amount paid as rentals on leased lines has not greatly increased within this period, and adding the capitalization of rentals, and deducting the amount of securities held, the net capitalization of 1899 was about $391,716,000 against a similar estimate of $577,128,000 for 1906.

The actual increase of net capitalization, therefore, was rather less than 50% as against an increase in gross earnings in the same period of 103%; that is to say, the increase in earnings under President Cassatt's administration was actually much more rapid than the increase in the true capitalization of the road.

In 1906 the subsidiary Pennsylvania Company made two loans, aggregating about $98,000,000 which amount was turned over to the Pennsylvania Railroad Company in exchange for $44,218,000 of car trusts, $10,000,000 of water certificates and $36,393,432 4½% collateral notes of the Oregon Short Line received from the sale of the Baltimore & Ohio stock. The balance appeared in the Pennsylvania Railroad's balance sheet as an increase of $10,348,838 in the "Pennsylvania Company Deposit Account." The item of $10,000,000 water certificates appears in the report of the Pennsylvania Company, but nowhere in the reports of the Pennsylvania Railroad Company.

The reports of the Pennsylvania have been for years models of completeness, and this fact made it especially notable that it should be necessary to put together two different reports in order clearly to understand so vital a transaction as an increase of about $64,000,000 in capital obligations in a single year. With reference to this, the following memorandum was furnished by the company, in response to a note of inquiry:

Car Trusts, Etc., As Capital Obligations.

"The Pennsylvania Railroad Company does not take the car trust certificates as an obligation upon its balance sheet, for the reason that these certificates are not issued by the Company but are issued by a Trust Company. The principal of the certificates

represents the cost of the equipment, which is leased to The Pennsylvania Railroad Company, and, under the terms of that lease, the equipment is all paid for in ten years. The holder of the certificates retains a lien upon the equipment until all of the instalments of principal are paid.

"The same reasoning applies to the water certificates; these are not issued by The Pennsylvania Railroad Company but are issued in like manner by a Trust Company, and the principal of the certificates is paid off in fifteen years through proportionate annual payments; the result, of course, in each case being, that when the car trust certificates are fully paid, the equipment becomes the property of The Pennsylvania Railroad Company just as the reservoirs, pipes, and other property representing a water plant becomes the property of the Railroad Company when all the water certificates are paid.

"The Pennsylvania Railroad Company has pursued a conservative policy in charging these expenditures against its surplus income, and not into the capital account.

"In regard to the issues of the Pennsylvania Company obligations, the Pennsylvania Company is simply a bureau of The Pennsylvania Railroad Company, which owns every share of its capital stock; and for the same reason that the Pennsylvania Railroad Company takes charge of the issue of the car trusts certificates to cover additional equipment furnished to all its lines both East and West of Pittsburgh, it feels itself entirely at liberty when short term securities have to be issued to use the Pennsylvania Company for that purpose, or to use The Pennsylvania Railroad Company, as it may prefer. Of the $98,000,000 of securities of the Pennsylvania Company referred to, $50,000,000 were temporary obligations which mature November 1st, 1907, and to meet which the Pennsylvania Company now has on hand the Oregon Short Line notes and other securities received from the Pennsylvania Railroad Company; the balance of $48,000,000 represents its French Franc Loan, and with the proceeds of that loan it has purchased from the Pennsylvania Railroad Company car trust and water supply certificates, which will be paid for in instalments and will thus furnish the Pennsylvania Company with the capital that it needs for a great deal of its construction work West of Pittsburgh.

"One of the objects in view when the Pennsylvania Company was organized was to enable it to do just the things for which the

Pennsylvania Railroad Company is now using it; and in granting its charter the State gave it certain exceptional privileges which are not possessed by The Pennsylvania Railroad Company under its charter. It. is, therefore, of special value to The Pennsylvania Railroad Company for this reason, and as the reports of the two Companies state these transactions very clearly, it is not thought that any obscurity or misapprehension can exist in reference thereto."

Community of Interest Results.

It is very interesting to compare the conditions which obtained when President Cassatt took hold of the road in 1899, and inaugurated the famous "Community of Interest" idea. In that year the earnings per ton mile of the Pennsylvania (and likewise for all the roads of the country generally) had sunk to the lowest point in its history. For the Pennsylvania the rate was .47c. In 1906 this had increased to .59c. This is a 24% increase, and on the 18,500 millions of tons moved one mile on the Pennsylvania, meant a difference of 22 million dollars in the gross earnings for 1906. This is just one-fifth of the total freight earnings for the year.

Not all of this gain, however, was saved. There was at the same time a heavy increase in the average expenses per ton mile, but the average net earnings per ton mile rose from .13c. to .18c. This is a 46% increase, nearly one-half. The freight traffic of the Pennsylvania represents three-quarters of its earnings, so that the difference in rates between 1899 and 1906 meant a difference in net earnings on the Pennsylvania of about $9,500,000. This is equivalent to nearly 3% on the capital stock and was 27% of the net surplus available for dividends and improvements for the year.

In other words, were the Pennsylvania with its present capital and charges operating under the same conditions as 1899, it could scarcely have paid its present dividend. Indeed, if it were held to its policy of setting aside large sums for improvements from earnings, it could not pay much over 4 or 5%.

It is easy to understand how deeply the Pennsylvania, as well as other roads of its class, is interested in the preservation of present conditions. A fall of 15% in the gross earnings of the road which 1899 rates would mean, would cut very heavily into its profits.

Character of Traffic.

Of the total tonnage of the Pennsylvania in 1906, about 10% was anthracite coal, and nearly a full third was bituminous coal. Coal and coke together formed 51% of the traffic. The largest other item was iron and steel, which amounted to about 12½%. The balance was made up of miscellaneous traffic, of which the products of agriculture were small. Six years earlier coal and coke formed about 57% of the traffic, so that the importance of this item has slightly declined, while that of miscellaneous traffic has increased.

Stability of Traffic.

The gross earnings of the road in ten years have shown a steady, and latterly a very marked, increase, so that with only a little more than half as much mileage, its gross earnings have more than doubled. In this period the gross earnings per mile, as the following table shows, have shown an increase for each year, with the single exception of 1904. The recovery in 1905 was very rapid, and for 1906 the increase was equally large, ranging above 12%. The showing for 11 years follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896	2,787	$62,096,503	$22,280
1897	2,813	64,223,113	22,830
1898	2,821	65,603,738	23,220
1899	2,847	72,922,985	25,719
1900	3,243	88,539,827	26,716
1901	2,671	101,329,795	27,602
1902	3,638	112,663,330	30,968
1903	3,656	122,626,419	33,541
1904	3,820	118,145,270	30,928
1905	3,839	133,921,992	34,512
1906	3,896	148,239,882	37,661

Maintenance.

The traffic density of the Pennsylvania is among the largest of any of the great roads of the country. It is more than double that of the New York Central and about five times that of the New Haven. The expenditures for maintenance are correspondingly heavy, amounting in 1906 to over $11,000 per mile operated.

This is undoubtedly very liberal maintenance and could, in case of necessity, be considerably curtailed, probably by 10 or

20%, without seriously affecting the road. A curtailment of 10% would be equivalent to about 1.3% on the capital stock.

The items for the seven full years in which President Cassatt directed the fortunes of the company compare as follows:

Year	Traffic Density	Maintenance per Mile		Total per Mile
		Way	Equipment	
1900.........	3,676,432	$3,407	$4,072	$7,479
1901.........	3,458,554	3,449	4,126	7,575
1902.........	3,855,238	3,831	4,882	8,713
1903.........	4,061,330	3,989	5,417	9,406
1904.........	3,722,881	3,348	5,171	8,519
1905.........	4,398,316	3,868	6,232	10,100
1906.........	4,742,081	4,378	6,725	11,103
Average....	4,130,690	$3,752	$5,232	$8,984

Miles of extra main track, 2,015.

Lackawanna..	3,079,629	4,754	3,579	8,333
Reading......	3,420,895	3,033	5,181	8,215
Lehigh Valley.	2,771,846	2,588	3,429	6,017
Erie..........	2,434,819	1,861	3,216	5,077
N. Y. Central.	2,096,289	2,741	3,169	5,910

It will be seen that although the Pennsylvania's charges have been heavy, they have not been as high, traffic considered, as some of its neighbor roads. With more than 33% heavier traffic, its average expenditures for the six years were only slightly above the Lackawanna's. The average traffic density for the New York Central was only half that of the Pennsylvania, yet its average maintenance charges for the period were $5,910 per mile, as against the Pennsylvania's $8,984.

In other words, the Pennsylvania, with its heavy charges, has simply been pursuing a policy that has been general among prosperous roads all over the country, and while these appropriations probably conceal some considerable earnings, they could not be heavily reduced and the standard of the road kept up, unless such reductions were general on competing lines.

Improvements.

But these charges represent only a part of the very large sums which have been spent on the Pennsylvania from earnings since the beginning of the Cassatt administration. In addition to the ordinary maintenance charges the following sums have been

written off the surplus and turned back into the improvement of the road within the period named:

1899	$3,495,559
1900	7,090,329
1901	10,824,595
1902	12,500,000
1903	9,472,728
1904	6,220,922
1905	8,842,881
1906	8,701,474
Total	$67,148,488

This is equivalent to $17,217 per mile of road operated. This is nothing like so large as the Lackawanna's appropriations, and does not, as in the latter case, amount to practical reconstruction of the road; but it is nevertheless a very large figure; for example, more than four times that of the New York Central.

Very considerable payments have likewise been made on car trusts and sinking funds from earnings, which since 1900 have been as follows:

1900	$506,036
1901	2,009,236
1902	2,002,984
1903	3,240,848
1904	3,836,909
1905	3,563,651
1906	4,503,165
Total	$19,662,829

This with the sum appropriated for improvements makes a total of upwards of $86,000,000 of earnings turned back into the road within eight years.

Within the same period $110,000,000 was paid to the stockholders in cash dividends. The difference between the two amounts is considerable, but there were various other payments, so that the Pennsylvania under President Cassatt fairly well maintained its traditional policy of "a dollar for dividends, a dollar for improvements."

Dividend Record.

The Pennsylvania enjoys the distinction of having paid continuous dividends for a longer period than any other American road, and since 1860, for forty-seven years it has never gone through a single year without the payment of a dividend. In this period it has paid out upwards of $270,000,000 in cash to its shareholders. The record from 1871 is as follows:

1871-4	10%
1875-6	8%
1877	4%
1878	2%
1879	4½%
1880	6% and 1% in scrip
1881	8%
1882-3	8½%
1884	7%
1885-6	5%
1887	5½%
1888-9	5%
1890	5½%
1891-2	6%
1893-9	5% yearly
1900-6	6% yearly
1907	7%

Surplus Earnings.

Even under its policy of liberal maintenance, the Pennsylvania has always earned much in excess of its dividend payment. The following table shows the "Margin of Safety" for dividends under President Cassatt's administration. The average per cent. of surplus on common stock was 10.5% as against 5.8% on dividends paid. The Factor of Safety on dividends of the eight years, therefore, has been regularly above 50%.

Towards the close of 1906 the stock was put on a 7% basis through the payment of a regular semi-annual dividend of 3½%. This brought the dividend rate for the year up to 6½% and called for a disbursement of $19,900,000 out of a total surplus shown of $35,700,000. In 1905 the 6% dividend consumed $18,000,000 out of the surplus shown of $30,000,000, so that the company was apparently better able to pay a 7% rate in 1906 than a 6% rate in 1905.

Year	Surplus	Per cent. Earned on Common	Dividends Paid on Common	Average Price
1899..............	$11,493,801	8.8	5	128
1900..............	17,277,530	11.4	6	133
1901..............	22,194,330	10.9	6	142
1902..............	27,321,687	13.4	6	148
1903..............	27,506,507	9.3	6	129
1904..............	27,990,866	9.3	6	123
1905..............	30,102,516	9.9	6	142
1906..............	35,674,300	11.6	6½	137
		10.5	5.8	

The full 7% dividend in 1907 requires a disbursement of upwards of $21,000,000, and is the largest dividend payment of any railway in the world.

The Balance Sheet.

In the report for 1906, the balance sheet is made up in more detail and a distinct gain of information afforded. For example, the very considerable and very vague item of miscellaneous assets, amounting to $18,921,933 is largely sorted out and reduced in 1906 to a figure much more in keeping with a policy of clearness and publicity.

Excluding materials on hand, the sheet shows:

Current Assets of....................	$67,910,502
Current Liabilities of................	35,368,060
Leaving a working balance of.....	$32,542,442

Not included in current liabilities was an item of $13,709,163, deposit account of the Pennsylvania Company. Inasmuch, however, as the latter company is quite solvent and all its stock is owned by the Pennsylvania Railroad Company, the matter is largely one of bookkeeping.

The item of cash on hand and on deposit amounted to $43,-170,122 and it is to be noted that there was an additional item included in the current assets, of accounts receivable from the sale of the Norfolk & Western and Chesapeake & Ohio stocks of $15,492,685. This item has already been grouped under the securities held in the estimate of capitalization, but it is really a quick asset and may properly be entered as such. It will be seen, therefore, that the company was well provided with cash and working capital, the increase in cash over the balance of

the previous year being upwards of $16,000,000. In a company carrying on tremendous expenditures for improvements as is the Pennsylvania, these items have less significance however, than otherwise.

The balance to the credit of profit and loss at the close of the year was $24,725,484.

Car Trusts.

Not showing on the general balance sheet, as is customary, were outstanding car trust certificates at the close of the year of $71,018,000 on the 94,873 cars obtained under these trusts. About one-third were sublet to subsidiary companies, so that the net actually chargeable against the Pennsylvania Railroad was $45,141,-362, which is the amount included in the estimate of capitalization here given.

The total payment on these car trusts for the year was $8,679,-397, of which amount $5,320,397 was paid by the Pennsylvania Railroad and the balance by its subsidiary companies. This included both interest and principal.

The Pennsylvania is one of the few roads of high standing which resorts to car trusts as a means of securing equipment. This method is generally significant of poverty and poor credit. It amounts to the same as buying furniture on the installment plan, which is usually expensive. But the amount which these car trusts add to the total indebtedness of the Pennsylvania is com paratively small.

Investment Value.

The Pennsylvania was put on a 6% basis in the first year of President Cassatt's administration. So it remained until the close of 1906, when the rate was advanced to 7%. As a 6% stock the Pennsylvania had fluctuated between a high point of 170 in September of 1902 to a low point of 110 in the winter of 1903-4. In the recovery of 1905 it sold up to 148. As a 7% stock the highest quotation was 145 and within 5 months thereafter, at the beginning of 1907, sold down below 115.

This was a violent fall for a stock of the solid investment value of the Pennsylvania and meant that the stock was selling on a 6% basis, a point it had not reached since 1891, when on a 6% dividend Pennsylvania sold down to 99. Even in 1893, when the Penn-

sylvania reached bedrock, it sold down to only 93, on a 5% basis. The price of 1907 was, therefore, relatively the lowest point for Pennsylvania in 16 years. Undoubtedly this was due in part to the prevailing rates for money, still more to the enormous outpour of Pennsylvania securities under the Cassatt administration and partly to a doubt as to the wisdom of the 7% dividend under existing conditions.

At the close of 1906 there were outstanding $20,000,500 of the 3½% 10-year bonds convertible at 140, and $99,624,500 of the 3½% 10-year bonds convertible at 150. The effect of the full conversion of these bonds would be to add $80,950,000 to the stock capital of the road and this on a 7% basis would call for $5,667,000 in dividends as against about $4,200,000 fixed charges on the 3½% bonds—an increase of nearly $1,500,000. This, added to the $3,000,000 required for each added 1% dividend on the existing stock would mean a total increase of dividend disbursements of about $4,500,000, or an increase of a full 25% over the charges on the same securities in 1906.

It was understood that large amounts of these bonds had been taken by syndicates and that when in the fore part of 1906 Pennsylvania found itself in need of further funds in a tight money market, the declaration of a 7% dividend was insisted upon by the banking interests in order that they might unload their supply of convertibles. If this was a fact, the plan was not a success. Conversion of the 1912 bonds into 7% stock at 140 would mean a *flat* rate of 5%, and on the 1915 bonds at 150, of 4.46%, a gain over the previous yield of 43% and 32%, respectively. But in the face of the opportunity to increase the interest return to this very considerable extent, up to January 1st, 1907, practically no further conversion of the bonds had taken place, and in March of 1907 the bonds sold at the lowest price in their history.

The case is an illustration of the fact that with careful and intelligent investors, it is earnings and not dividends which determine values and a misjudged increase of the dividend may lower, rather than raise the price of a security.

Nevertheless, if the fall in the price of Pennsylvania stock in 1907 meant anything more than that the price of best railway securities, standard stocks, was at that time tending towards a 6% basis, it would seem that this was a case of serious misjudgment on the part of investors. It has already been pointed out that the Pennylvania's income from its investments was equivalent

in 1906 to about 3% on its outstanding capital and that in these securities were very considerable equities, sufficient to make the return a solid one. The company has then to earn only 6 or 8% from its actual operations as a carrier to comfortably pay an additional 3 or 4%, and still have ample funds to devote to improvements.

It has been pointed out in the discussion of maintenance, that the Pennsylvania's items have been very heavy, and while with the rise in prices of labor and materials the amount of concealed earnings here may not be large, it is fairly certain that under any drastic set-back of business, labor and materials would fall in prices sufficient to give the road a considerable margin for retrenchment in this quarter. It would seem, therefore, that nothing short of such a storm as broke over the country in '57 could seriously impair the Pennsylvania's investment value, and unless the high interest rates of 1906-7 continue, as scarcely seems probable, Pennsylvania on or somewhere near a 6% basis would seem a very attractive purchase.

The New York Tunnels.

Probably no single undertaking of President Cassatt's has tended more to weight the stock of the Pennsylvania than the tunnel extension from the Jersey shore into New York City and the purchase of terminals in the heart of Manhattan, at naturally a very heavy expense. Yet this extension is a part of the bold and far-sighted project which will immeasurably strengthen the Pennsylvania and undoubtedly earn dividends on whatever outlay this extension involves, even though it should exceed one hundred millions of dollars.

Before this work was begun the terminals of the Pennsylvania, the chief railroad in America, in their relations to New York, the chief city of America, were very much the same as if the New York Central were to stop on the hither side of the Harlem River. Simply by tunnelling under the Hudson and obtaining a direct entrance for its trains into the city, the Pennsylvania will largely increase its passenger traffic and practically force its rivals on the Jersey shore to the same undertaking. By obtaining control of the Long Island Railroad, and by continuing its tunnels under Manhattan and under the East River, it will be able to run its passenger trains through to the seaside places of Long Island without change. And yet again, by the construction

of the bridge over the East River, connecting its lines with the New Haven terminals, it will be able to run its trains through from Boston to the farthest parts of its system. With the lines of the Boston & Maine absorbed by the New Haven, the alliance of the New Haven and the Pennsylvania would naturally tend to become much closer.

The predicted decadence of New England's industries has not yet arrived, and with a through freight route from its chief manufacturing centers to the west and south, via the Pennsylvania's lines, New England will be in a better position than ever to meet the steadily growing competition of manufacturing in other centers. All this must inevitably contribute to the Pennsylvania's traffic and to solidify the position of that road as the great goods carrier of America.

In the report of 1906 it is stated that $13,000,000 was charged off from the profit derived from the sale of Baltimore & Ohio and other securities during the year, and devoted to the cost of the tunnel extension. The sum of $5,000,000 was similarly charged off for premiums in 1903, and $5,000,000 more in 1905, which amounts are to be added to the $28,835,033, the amount at which the tunnels were carried on the balance sheet of 1906, making a total of $51,835,033 representing the total expenditure on the tunnels to the close of 1906. It is evident that with the rise in materials and labor and some engineering difficulties encountered in the East River tunnels, the cost of this work will considerably exceed anticipations, but at the outside, it can scarcely involve the expenditure of more than one hundred millions, and it would be surprising if, after deducting the cost of ferriage which these tunnels will save, the road could not comfortably earn net 7 or 8% on this sum. The cost of transfers and reshipment is always large and the saving that will be effected in these items will be considerable, while the stimulus to traffic which these extensions will afford should be sufficient easily to make up the balance of charges.

The steady growth of New York City, like that of London and other great centers, makes it clear that an enormous business will inevitably accrue to the roads which will put themselves in a position to handle this traffic at the lowest possible cost. Whatever may be the result of the first few years, it is scarcely to be doubted that the New York extension will in time be looked

upon as one of the master strokes of President Cassatt's bold policy.

The Convertibles.

Under the high interest rates prevailing in 1906 and 1907, the 1912 convertibles, exchangeable at 140, sold down in 1907 as low as 94 and the convertibles of 1915, exchangeable at 150, slightly below 90. At these low figures the conversion price was equivalent to 132 and 135, respectively. It scarcely seems probable that high interest rates are a permanence and with the return to the normal level of previous years, there seems little doubt that Pennsylvania stock will tend to sell above 150. To the investor who is willing to wait, therefore, it would appear that at anything like these figures, these convertibles are an attractive purchase and that eventually they should yield a handsome profit to their holders.

THE PENNSYLVANIA COMPANY.

The Pennsylvania Company is simply a subsidiary operating company for the Pennsylvania Railroad, and its entire capital stock is owned by the latter. It controls all the Pennsylvania lines west of Pittsburg, and it is in addition a huge holding company. The total of securities owned is carried on the books of the company at $232,000,000. This includes controlling interests of a number of companies subsidiary to the Pennsylvania, and in addition large interests in the Baltimore & Ohio, the Cambria Steel Company, the Pennsylvania Steel Company, the Norfolk & Western, etc.

Within latter years the company has earned a handsome surplus, but prior to this time it was not a source of great profit to the parent company. In 22 years it has shown a nominal deficit five times, even before meeting its interest charges. In 24 years it has paid a dividend in only ten, and the average return to the parent road, on its stock, for this period was only about 1.5%.

History.

The Pennsylvania Company was chartered by the Legislature of Pennsylvania in 1870, and began operating in the year following, taking over the lines owned and leased by the Pennsylvania railroad, west of Pittsburgh. The principal of these was the old Pittsburgh, Fort Wayne and Chicago. In 1905 the capitalization of the company was increased from $40,000,000 to $60,000,000.

The main line of the Pennsylvania Company extends from Pittsburgh to Chicago, and in 1906 it directly operated 1,410 miles. It directly controls the Pittsburgh, Cincinnati, Chicago and St. Louis (1,429 miles), the Vandalia (777 miles), the Grand Rapids and Indiana (574), and a number of minor companies (792 miles). In 1906 the total, including mileage operated under trackage rights, was 5,048 miles.

The entire capital stock being held by the Pennsylvania Railroad Company, the directors are simply representatives of that line.

Capitalization.

It is somewhat difficult to arrive at the true capitalization of the Pennsylvania Company for it directly owns no track; in other words, it is simply a leasing company.

In 1906, including the rentals paid on roads operated on a basis of net earnings, the company paid rentals of $9,287,879 as against $4,014,568 interest on its funded debt. On the other hand, it received in dividends and interest from its investments $7,634,271. The latter sum was equivalent to about 3.4% on the book valuation of the securities owned.

Obviously if the rentals be capitalized on the basis of 4%, in pursuance of the plan of this book, while the securities owned be taken at the book valuation of the company, the latter being largely securities of leased and operated companies, the result would be to lower the actual capitalization. The estimate which follows, therefore, is only a rough approximation. As of January 1st, 1907, it would stand:

Common stock	$60,000,000
Funded Debt	130,203,548
Notes	50,000,000
Total Capital	$240,203,548
Rentals capitalized at 4%	232,195,000
Approx. gross capitalization	$472,398,548
Securities held	222,321,320
Approx. net capitalization	$250,077,228
Approx. net capit. per mile	$177,359
Average miles operated	1410
Net earnings on net capital	5.8%
Stock on net capitalization	24%
Fixed charges on total net income	62%
Factor of Safety	38%

It will be seen that on this estimate the net capitalization per operated mile is very high, especially as compared with other roads in the same territory. It stands against a similar estimate of $78,987 per mile for the Lake Shore, $69,150 for the Wabash and $101,311 for the Panhandle.

On this estimate of the net capitalization net earnings show only 5.8% as against 6.6% for the Panhandle, 3.9% for the Wabash and 12.7% for the Lake Shore.

It will be seen that the proportion of stock to the estimated net capital is small—only about 24%. It is easy to see, therefore, that fixed charges, including rentals would be high, amounting in 1906 to 62%, leaving a factor of safety of about 38%. This is just reversing the proportions shown by the parent Pennsylvania Railroad.

The gross capitalization for 1906 showed a very heavy increase, amounting—all told—to about $118,000,000. Of this, however, $105,844,645 was increase in the securities owned by the company. The larger part of the new capital was turned over to the Pennsylvania Railroad, in return "for car trust and water certificates and other securities of an amount substantially equal to the obligations incurred." The only apparent reason for this curious bit of financing was to make less obvious the Pennsylvania Railroad's actual increase of about $64,000,000 in capital obligations. As noted in the analysis of the parent company, the item of $10,000,000 water trust certificates appearing in the reports of the Pennsylvania Company was nowhere to be found in the reports of the Pennsylvania Railroad Company.

Equities Owned.

The total par value of the stocks and bonds owned by the Pennsylvania Company at the close of 1906 was $277,488,639, carried on the books, as already noted, at a valuation of $222,-321,320. Of these securities there was deposited as collateral under the various mortgages and trust obligations, stocks of a par value of $146,775,650, leaving about $130,000.000 of stocks free in the treasury.

The principal items in these holdings were:

Baltimore & Ohio, Pfd	$5,000,000
Baltimore & Ohio, common	13,451,200
Cambria Steel Company	22,504,100
Grand Rapids & Indiana Ry	2,902,600
Ore. Short Line 4½ Collateral Notes	36,393,432
Norfolk & Western, Pfd	5,000,000
Norfolk & Western, common	1,500,000
Pitts., Cin., Chic. & St. L., pfd	22,470,700
Pitts., Cin., Chic. & St. L., common	14,587,500
Pennsylvania Steel Company, common	7,388,900
Pennsylvania Terminal Ry Co	100,000

Pitts., Ft. Wayne & Chic. guaranteed special....	33,443,400
Vandalia R. R. Co..............................	11,633,400
Pennsylvania Trust Certificates.................	2,700,000
Pennsylvania Gold Certificates..................	9,300,000
Pennsylvania Improvement Certificates.........	10,000,000
Pennsylvania Equipment Certificates...........	22,218,000
Pennsylvania Water Supply Certificates........	10,000,000

The holdings in B. & O. preferred increased by about $2,-404,600 and in the Pittsburgh, Ft. Wayne & Chicago, guaranteed special, by $3,029,300.

The value of the B. & O. holdings have increased very considerably since their purchase and likewise large holdings in the Panhandle in 1906 earned about 12% on its common stock, above the preferred dividend. The Cambria Steel stock received 3% in 1906, the Pennsylvania Steel, preferred, 7%.

The $36,000,000 of Oregon Short Line notes was the balance of the amount received by the Pennsylvania Railroad Company on the sale of its B. & O. holdings and turned over to the Pennsylvania Company in exchange for cash.

The 3.4% on the book valuation of these securities, represented by the $7,634,271 income received in 1906, does not fairly represent the actual income from these securities since on $54,-218,000 of securities received from the Pennsylvania Railroad during the year, and included in the above amount at their face valuation, the Pennsylvania Company received nothing during the year; and likewise nothing on the Oregon Short Line notes. Deducting these various amounts, the income of 1906 would represent about 5.7% on the book valuation of the balance, indicating that these securities are carried on the books at considerably under their market price.

Character of Traffic.

The Pennsylvania Company's passenger traffic for 1906 amounted to only about 15% of its gross earnings; in other words, it is largely a freight line. Of the freight traffic about one-third is made up of bituminous coal alone, and coal and coke make up about 45%, a slightly lower proportion than on the Pennsylvania Railroad. Shipments of ores are large, so that mine products make up about 65% of the total.

Stability of Earnings.

With a small increase in mileage, the gross earnings of the Pennsylvania Company in ten years have increased enormously;

the earnings per mile having more than doubled within this period. The increase for 1905 was especially extraordinary, but was nearly equalled in 1906, as the following table reveals:

Year	Miles Operated	Gross Earnings	Earnings per Mile
1896	1,225	$17,414,432	$13,399
1897	1,225	18,615,700	15,195
1898	1,225	19,561,400	15,968
1899	1,225	22,986,827	18,601
1900	1,357	25,407,562	18,723
1901	1,396	29,054,545	20,812
1902	1,430	33,025,648	23,094
1903	1,526	36,602,935	23,986
1904	1,526	36,390,582	23,846
1905	1,389	40,596,439	29,232
1906	1,410	46,036,806	32,650

Community of Interest Results.

In 1899 the average freight earnings per ton mile were .51c. In 1905 they were .60c., an increase of nine-tenths of a mill. This on the company's total ton mileage represented a difference of $5,413,300 in the gross earnings of 1906. This was 11% of the gross earnings. The average net earnings for the same period increased by half a mill per ton mile, equivalent to $3,000,000 of clear gain to the company. This is 33% of the total surplus income shown for the year. In other words, under the conditions of six years before, the company could pay 3% on its capital stock with rather less ease than it paid 6% in 1906.

Maintenance.

With this large increase of business the traffic density and maintenance charges have likewise shown a heavy increase, as the following table shows:

Year	Traffic Density	Maintenance per Mile		Total per Mile
		Way	Equipment	
1901	2,713,100	$3,209	$3,255	$6,464
1902	2,855,660	3,056	3,635	6,691
1903	2,897,684	2,845	3,975	6,820
1904	3,023,221	2,518	3,820	6,338
1905	3,724,795	3,855	4,619	8,474
1906	4,263,587	4,402	5,531	9,933
Average	3,246,341	$3,314	$4,139	$7,453

Miles of extra main track, 815.

Panhandle....	2,193,454	2,567	3,680	6,247
Lake Shore...	3,102,376	4,308	4,093	8,401
Penn. R. R...	4,139,690	3,752	5,232	8,984

It will be seen that in six years the traffic density increased about 60% and maintenance charges in almost the same proportion. Even allowing for the increased cost of materials and supplies, it will be seen that the standard of maintenance of 1906 was fully up to that of previous years; and this standard has always been very high. There is little question that the maintenance charges of nearly $10,000 per mile in 1906 was so large that it might be very considerably curtailed in less prosperous times without injury to the property. It was nearly equal to the average maintenance of the Pennsylvania Railroad, while the traffic density of the latter is considerably higher and passenger business much greater.

Improvements from Earnings.

Even after these high maintenance charges, considerable sums have been set aside from surplus earnings for improvements, as follows:

1900	$1,000,000
1901	1,000,000
1902	2,000,000
1903	3,000,000
1904	2,000,000
1905	2,000,000
1906	2,767,990
Total	$13,767,990

The item for 1906 included $267,999 paid on account of principal of car trusts, but similar payments in previous years are not shown.

Surplus Earnings.

After the liberal maintenance charges, but before charging off the special appropriations tabled above, funds available for dividends over a series of years have been as follows:

Year	Surplus	Per cent Earned on Stock	Dividends Paid	Average Price
1899.............	$2,146,931	5.3	–	All owned by Pennsyl-vania Railroad
1900.............	2,119,603	5.2	–	
1901.............	3,681,261	9.2	3	
1902.............	5,783,984	14.4	3	
1903.............	5,119,641	12.7	4	
1904.............	5,187,930	12.9	5	
1905.............	6,322,421	15.8	5	
1906.............	8,933,888	14.9	6	

The surplus shown for 1905 is the revised surplus given in the report of 1906, with the $267,990 car trust payments added. Previously this item has been included in the fixed charges. The percentage earned on the stock shown for 1905 is that calculated on the $40,000,000 of stock which was actually outstanding throughout the whole of the year, while the percentage for 1906 is calculated on the $60,000,000 of stock outstanding.

It will be seen that the dividend payments were less than half of the surplus shown.

Dividend Payments.

Over a series of years the dividend have been as follows:

1883..................................	4%
1884-91..................................	nil
1892-4..................................	4
1895-00..................................	nil
1901-2..................................	3
1903..................................	4
1904-5..................................	5
1906..................................	6

The Balance Sheet.

Excluding from current assets the item of materials on hand, according to the policy of this book, but including about $10,000,000 due from leased and other companies for betterments and advances.

Current Assets showed...............	$41,330,711
Current Liabilities....................	15,146,516
Leaving a working balance of.........	$26,184,195

This large balance includes, however, miscellaneous assets, nature not indicated, to the amount of $7,816,300. The various items of cash totaled $19,096,251 and the credit to balance of profit and loss at the close of the year $7,839,743.

The Pennsylvania's Equity.

As the Pennsylvania Railroad owns the entire amount of the Pennsylvania Company's capital stock, the two companies are to all intents one. The debt of the one company to the other was, therefore, more or less a mere item of bookkeeping.

Included in the subsidiary company's current assets was $13,-709,163 on deposit with the Pennsylvania Railroad, which sum would be of course deducted from the Pennsylvania Company's working balance in considering the parent company's interest therein.

Even had it kept to a strict half-for-dividends-half-for-improvements policy, the Pennsylvania Company might have paid its parent 7% during the year, or an additional $600,000; and unquestionably the Pennsylvania's interest in the equity represented by large improvements and heavy maintenance charges is large. As has been shown, however, in the case of the Lake Shore, it would be absurd to consider that the entire amount of surplus earned would be readily available to the holding companies in case of need. Without doubt the maintenance charges on the Pennsylvania lines West could have been very materially lower in 1906 than they were, and this difference returned to the holding company in dividends. But it is the expectation of American roads that they shall not merely be maintained in equal condition from year to year, but that they shall be put in shape to meet the constantly expanding business—further, that a considerable part of these improvements shall be paid for from earnings. In view of all this, the estimate of enormous equities in the earnings of subsidiary lines which are sometimes figured for the Pennsylvania and similar holding companies are absurd.

It is manifest that in its Lines West the Pennsylvania Railroad has properties of very rapidly increasing value, and that it could probably have drawn from the Pennsylvania Company's surplus earnings perhaps a million dollars more in the highly prosperous year of 1906 than it did, without curtailing the liberal standard of maintenance and improvements.

PERE MARQUETTE RAILROAD.

The Pere Marquette is notable as having been a part of the only large railroad system in the country to pass into the hands of a receiver in the highly prosperous period of 1900-1906. The company had been organized in 1899 for the purpose of consolidating the Flint & Pere Marquette, the Detroit, Grand Rapids & Western, and the Chicago & West Michigan Railway; and two smaller roads were acquired or leased.

In December, 1902, a syndicate, consisting of Thomas H. West and John F. Shepley of the St. Louis Union Trust Co., F. H. Prince of Boston, G. H. Norman, Newman Erb, Nathaniel Thayer, Mark T. Cox, B. P. Cheney, T. Jefferson Coolidge, Thomas F. Ryan and others acquired a controlling interest and F. H. Prince was made president. In 1903 the Lake Erie & Detroit River Railway, 226 miles, was taken over, and trackage rights secured over the Michigan Central into Buffalo, extending the line easterly from Detroit to the latter point.

In 1904 the Cincinnati, Hamilton & Dayton secured control and leased the property, the Pere Marquette having previously acquired the entire stock of and leased a new line, the Chicago, Cincinnati & Louisville. The whole was to form what was to be known as the Great Central System. In December, 1905, Judson Harmon, of Cincinnati, was appointed receiver for the combined roads, and the Chicago, Cincinnati & Louisville returned to the vendors. The full story of the purchase and receivership is told under the heading of the Cincinnati, Hamilton & Dayton.

In 1906 the Pere Marquette operated a total of 2,398 miles, lying mainly in the State of Michigan.

The directorate for 1905, the year previous to the receivership, included Eugene Zimmerman, then President of the Cincinnati, Hamilton & Dayton; James N. Wallace, of the Central Trust Co., New York; George W. Young, then President of the United States Mortgage & Trust Co.; George M. Cumming, his successor; Richard N. Young, Arthur Turnbull, Alfred Skitt, Rudolph Kleybolte, of Kleybolte & Co., Bankers; W. R. Cross, Frederick L. Eldridge, of the Knickerbocker Trust Co.; Thomas

H. Tracy, W. C. MacMillan, then United States Senator from Michigan; Wm. Alden Smith, later United States Senator from the same State, and Russell Harding, President of the Pere Marquette.

The executive committee consisted of Eugene Zimmerman, James N. Wallace, F. L. Eldridge and Richard N. Young. The executive committee was the same as that of the C. H. & D. for that year, and the directorate largely the same.

In 1906, after control of the road had passed to the Morgan interests, the directorate included George W. Perkins, of J. P. Morgan & Co., Chairman of the Board; F. D. Underwood, President of the Erie; president Chas. Steele, of J. P. Morgan; George F. Baker, president of the First National Bank; George W. Young, Norman B. Ream, J. G. McCullough, G. A. Richardson, W. R. Gross and E. H. Harriman, with three vacancies.

In 1905 the road reported 1,984 shareholders.

Capitalization.

As of June 30th, 1906, the capital account of the road, not including the $3,500,000 collateral trust bonds, issued in purchase of the stock of the Chic., Cin. & Louisville, then in litigation, stood as follows:

Common stock	$16,000,000
Preferred stock	12,000,000
Total stock	$28,000,000
Funded debt (including leased lines, net)	49,993,292
Equip. oblig. (including leased lines, net)	4,708,000
Receiver certif	1,619,180
Total capital	$84,320,472
Rentals capitalized at 4%	19,170,000
Approx. gross capital	$103,490,472
Securities held	6,142,414
Approx. net capital	$97,348,058

Approx. net capital. per mile	$40,595
Average miles operated	2,398
Net earnings on net capital	3.6%
Stock on net capital	30%
Fixed charges on total net income (estimated)	108%

In 1906 the Pere Marquette paid in rentals $766,849, which, capitalized after deducting securities held, left an estimated net capitalization of $40,495 per mile, on a road earning $5,600 per mile. The net earnings for the year showed only 3.6% on the estimated net capitalization, a figure that is indicative of the high capitalization of the road. For the fiscal year of 1905 the road showed a deficit of $22,430, and for 1906 under the receivership of $860,947. This was against a nominal surplus of $1,290,549 for the fiscal year of 1904. The reasons for this appear in the following analysis of the charges for

Maintenance.

For six and a half years the comparison of traffic density and maintenance charges was as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900.........	351,089	$747	$575	$1,322
1901.........	430,380	863	564	1,427
1902.........	495,658	809	568	1,377
1903.........	512,647	586	494	1,080
(1903–4)......	(487,388)	(538)	(493)	(1,031)
1904–5.......	551,421	720	650	1,370
1905–6.......	677,378	678	791	1,469
Average....	503,096	$733	$607	$1,340
Lake Erie & W	592,307	999	733	1,732
Wabash......	880,032	1,332	1,370	2,702
Gr. Rap. & In.	501,035	1,110	983	2,093

It will be seen from the above that in the fiscal year of 1904 maintenance of way amounted to only $538 and equipment to $493, a total of $1,031, on a road with a freight traffic density of about 500,000 ton miles. The total maintenance for the previous year was only $1,080. It will be seen from the table above that the average maintenance of the Lake Erie & Western for a period of six years was about $700 per mile higher than that of the Pere Marquette for these two years, and that of the Grand Rapids & Indiana, $1,000 per mile, respectively 70% and 100% higher, on roads with something like the same traffic density. It is safe to say that the undercharge for the two years under view was at least from $400 to $500 per mile, and this on the average mileage operated would have been sufficient to wipe out the larger part of the nominal surplus shown.

As further indication of the condition of the road, it is to be noted that in 1905, with an increase in gross earnings of $1,236,-728, there was an increase in the cost of conducting transportation of $1,040,000, indicating that the costs of operation in the previous year had been cut to the bone. Operating expenses in 1905 showed a total increase of $2,198,973 over 1904, with the result noted that with a fair increase in earnings the operation showed a deficit for the year.

Surplus and Earnings.

From the organization of the road, earnings have shown as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1900	1,821	$ 8,296,111	$4,555
1901	1,838	9,201,175	5,003
1902	1,828	9,955,375	5,445
1903	2,109	11,356,436	5,385
1904–5*	2,171	11,430,691	5,264
1905–6	2,380	12,667,420	5,322
1906	2,398	13,430,169	5,599

In the same period the surplus shown was as follows:

1900		$646,189
1901		734,575
1902		993,137
1903		1,616,678
1903-4		1,290,549
1904-5	Deficit	22,430
1905-6	Deficit	860,947

The 4% on the preferred stock was paid up to and including 1905. The dividends for the latter year were paid out of the profit and loss account, and helped to swell the *loss* which that account showed, as below.

The Balance Sheet.

The balance sheet for June 30th, 1905, just previous to the purchase of the road by the Morgan interests and the subsequent receivership, showed as follows:

Current assets	$2,676,203
Deferred assets	683,287
Total assets	$3,359,490
Current liabilities	$4,456,857
Deferred liabilities	1,032,936
Total liabilities	$5,489,793
Leaving a debit balance of	$2,130,303

The item of cash on hand was $299,938 and the profit and loss account showed a debit balance of $504,498.

On June 30th, 1906, the balance sheet showed:

Current assets	$2,777,038
Deferred assets	218,921
Total assets	$2,995,959
Current liabilities	$4,495,856
Deferred liabilities	1,510,094
Total liabilities	$6,005,950
Leaving a debit balance of	$3,009,991

There was cash on hand of $599,075 and the balance to debit of profit and loss had grown to $1,495,490.

There had been issued under the receivership receiver certificates to the amount of $1,619,180. Of this $1,200,000 was issued partly for payment of back taxes of the Pere Marquette Railroad, levied by the State of Michigan, and for a long time in litigation.

Condition.

For the fiscal year of 1906, of which seven months had been under the receivership of Judson Harmon, the company showed on practically the same operated mileage an increase of $762,-749 in gross earnings and $745,432 increase in net earnings. In other words, practically all of the increase in gross was saved to net earnings. Operating expenses, therefore, decreased from 78.3% in 1905 to 74% in 1906.

Analysis of the operating expenses shows that, while maintenance charges increased, the cost of conducting transportation decreased $280,000. This was in face of an increase in freight carried of 310,000,000 ton miles, or about 22%, and in the face, likewise, of a decline in the average rate per mile from .69c. to .60c.

Revenue freight per train mile increased from 251 to 311 tons, and the average haul from 157 to 171 miles. The increase of freight earnings per train mile was from $1.73 to $1.85.

During the year 96 miles of new 85-lb. steel rail was laid, 69 miles of sidings and yard tracks were built, and, during the year, a contract was entered into with the Canadian Pacific for joint terminal facilities at Windsor, Ont., providing for a good and independent crossing of the Detroit River, between Detroit and Windsor, Ontario. Additions and improvements for the year amounted to $750,908, and 50 new locomotives, 150 freight cars, 41 passenger cars, and 53 work cars were added to the equipment of the road.

This was a very remarkable showing and revealed the splendid management of the road under Receiver Harmon's hands. Had it not been for an increase of $782,000 in taxes, the larger part of which was back taxes, $316,000 in added interest charges, and of $205,000 in added rentals, a total of $1,303,000, the road would have earned a surplus of nearly half a million dollars. As back taxes in excess of this latter sum were paid during the year and charged against income, it is evident the property for the fiscal year of 1906 just about earned its fixed charges, even with the considerable increase in taxes under the Michigan law, the constitutionality of which has now been confirmed.

It is evident, therefore, that if the floating debt could have been funded at a low rate of interest, the road might have been taken out of the hands of the receiver, and had it not been for the condition of the money market through the fiscal years of 1906-7 this undoubtedly would have been done.

PEORIA AND EASTERN RAILWAY.

The Peoria & Eastern operates 352 miles eastward from Peoria through Indianapolis to Springfield, Ohio. It is a subsidiary of the Big Four, which owns a majority of the stock, and is therefore a part of the Vanderbilt system. The Board of Directors is controlled in the Vanderbilt interest. As of January 1st, 1907, the principal items of interest were as follows:

Capital Stock	$10,000,000
Funded Debt	13,985,100
Total	$23,985,100
Gross Earnings for 1906	3,059,281
Per Mile	8,691
Operating Ratio	68%
Nominal Surplus	$172,800

For a number of years operating expenses have been considerably surcharged. In 1906 on a freight traffic density of 1,044,860 ton-miles the maintenance charges were, for way and structures, $1,123 per mile, and for maintenance of equipment, $1,214. This was a slight reduction from the previous year.

If the amount charged to operating expenses for new construction, etc., be added to the nominal surplus shown, the company earned about 3% on its capital stock. No dividends have been paid for a number of years.

The Big Four guarantees the interest on the company's bonds, except the income bonds. The road is a one-quarter owner of the Peoria & Pekin Union Railroad.

PHILADELPHIA AND ERIE RAILROAD.

The Philadelphia & Erie consists of a line from Sunbury, Pennsylvania, northwesterly to Erie, operating 307 miles in all, with 157 miles of double track. This road was leased to the Pennsylvania Railroad for 999 years, actual net receipts being paid as rentals.

As of January 1st, 1907, the principal items of interest were:

Common stock	$7,985,000
Special Guaranteed stock	2,400,000
Total	$10,385,000
Funded Debt	19,823,000
Total	$30,208,000
Gross Earnings (1906)	8,342,875
Net Earnings	2,169,635
Per cent. on capital	7.0%
Surplus	973,484

The surplus of 1906, after payment of 7% on the special guaranteed stock was equivalent to 10% on the common stock. The surplus of 1905 was $1,255,630. In 1906 the common stock fluctuated between $64 and $73 per $50 share.

As of January 1st, 1907, the Pennsylvania Railroad owned all of the $2,400,000 special stock, $3,499,800 or nearly one-half of the common stock and $3,944,000 of the general mortgage bonds.

In January, 1907, the Pennsylvania Railroad offered to exchange the balance of the outstanding common stock dollar for dollar for Pennsylvania Railroad stock, and the offer to merge the line with the Pennsylvania Railroad Company was ratified by the shareholders.

Six per cent. was paid on the common stock in 1906 and in 1905; 4% in the three preceding years. It is obvious that as the dividend on the Pennsylvania stock was raised to 7% in 1906, this offer was highly advantageous to the shareholders of the Phila-

delphia & Erie. The earnings of the Pennsylvania are naturally more stable than those of the smaller road and the percentage shown by the Pennsylvania on its common stock for 1906 was higher than that shown by the Philadelphia & Erie, after liberal maintenance charges. On the other hand, it was evident from the earnings of the road that this offer on the part of the Pennsylvania was amply justified.

PHILADELPHIA, BALTIMORE AND WASHINGTON RAILROAD.

The Pennsylvania lines from Philadelphia to Washington are owned and operated by a subsidiary company known as above. The latter was a consolidation in 1902 of the old Philadelphia, Wilmington and Baltimore, and the Baltimore and Potomac. The Pennsylvania owns practically all of its capital stock, and the road is therefore of interest here, more especially for the equity which the Pennsylvania has in its surplus.

The capitalization of the road Jan. 1, 1907, stood as follows:

Common stock	$23,493,575
Funded debt	20,200,973
Nominal capital	$43,694,548
Rentals cap. at 4%	21,965,325
Approximate gross capitalization	$65,659,873
Securities held	8,010,770
Approx. net capitalization	$57,649,103
Approx. net capital. per mile	$81,655
Average operated mileage	706
Net earnings on net capital	7.5%
Stock on net capitalization	41%
Fixed charges on total net income	45%
Factor of safety	55%

The gross earning for 1906 were $15,941,241. Passenger earnings nearly equalled freight earnings.

The maintenance of way averaged $2,681 per mile and maintenance of equipment $3,661 per mile, or a total of $6,342 per mile, a considerable increase over 1905. This on a traffic density of 1,125,965 ton-miles was apparently very heavy maintenance,

but the high proportion of passenger earnings, nearly 50%, makes the comparison deceptive. It was obviously, however, fully up to the Pennsylvania's tradition.

Net earnings showed 7.5% on the estimated net capital, or slightly under the figure of 8.1% for the Pennsylvania Railroad.

The surplus for 1906 was $2,782,552, a slight increase over the previous year. This was equivalent to 11.8% for the outstanding stock or about the same figure as shown by the Pennsylvania Railroad.

Four per cent. was paid on the common stock and the balance of the surplus, $1,842,810, turned back into improvements of the road. It is obvious from this that 6% might readily have been paid, which would have added $470,000 to the Pennsylvania's other income.

As of January 1st, 1907, stocks and bonds were carried on the books at a valuation of $8,010,770. The principal items of these holdings were

Baltimore & Ohio, common............	$1,048,700
" " pfd.................	1,000,000

The balance was chiefly in subsidiary roads.

Current liabilities about equalled current assets but there was in addition an item of accounts payable of $5,063,826 requiring funding or payment in some form.

PITTSBURGH AND LAKE ERIE RAILROAD.

The Pittsburgh & Lake Erie is the most extraordinary road of any considerable dimensions in the United States, or for that matter in the world. Its traffic density is the heaviest, its gross earnings the largest, per mile of road, known. Its net capitalization exceeds $100,000 per mile, and yet it earns on this, 34% per annum.

Its traffic density for 1906 was nearly 10,000,000 ton miles per mile of road operated, against 2,226,046 for the New York Central, and 4,742,081 for the Pennsylvania. Its gross earnings for the year of $75,000 per mile compared with $24,336 for the New York Central and $37,661 per mile for the Pennsylvania.

It has more miles of extra track than main line, which is true of no other considerable road in the country. It has a locomotive for more than every mile of road operated; it has only 91 passenger coaches, but over 12,000 coal and coke cars. And this is all that it is,—simply a coal and coke hauling road. But on its capital stock it practically earned a surplus in 1906 of nearly 75%, a figure which stands against the extraordinary figure of 43.4% similarly estimated for the Delaware & Lackawanna. The New York Central earned only 8%, and the Pennsylvania only 11.6%.

The road was opened in 1879, the main line extending from Pittsburgh to Youngstown, Ohio, where it connects with the Lake Shore. It operates a total of 191 miles, with 210 miles of second, third and fourth track. The road is a part of the New York Central system and $5,000,100 of its $10,000,000 capitalization is owned by the Lake Shore. The directorate of 1906 comprised six of the New York Central-Lake Shore directors, with James M. Schoonmaker, vice-president and general manager; the other directors were John G. Robinson, M. W. Watson, D. Leet Wilson, J. B. Jackson and George E. Shaw.

Capitalization.

The capitalization of the road on January 1st, 1907, was as follows:

Common stock	$10,000,000
Funded debt	4,000,000
Total Capital	$14,000,000
Rents capitalized at 4%	12,054,425
Approx. gross capitalization	$26,054,425
Securities held	5,065,224
Approx. net capitalization	$20,989,201
Approx. net capit. per mile	$109,891
Average miles operated	191
Net earnings on net capital	34.3%
Stock on net capitalization	47%
Fixed charges on total net income	11%
Factor of Safety	89%

The nominal net earnings represented about 15% on the estimated net capitalization, but in the operating expenses extraordinary expenditures to the amount of $4,932,000 were included. If this sum be added to the nominal net earnings, the actual earnings of the road represented 34.3% on the estimated net capitalization.

The road paid in 1906, $481,616 of rentals on leased lines. This amount capitalized at 4%, adds $12,054,425 to its nominal capital. The stock represents 47% of the estimated net capital.

Fixed Charges consumed 27% of the nominal net income, but if new construction and new equipment were eliminated from the charges for operation, Fixed Charges would then have represented only 11% of the total net income. In any event its Factor of Safety for the underlying securities of the road is very high, amounting even on the former estimate to 73%. It is in reality considerably higher. The company's holdings in other lines are very slight and it has no equities worth mentioning.

Character and Stability of Traffic.

Less than 10% of the gross earnings of the road are derived from passenger earnings, and more than 90% come directly from freight traffic. Of the freight traffic, bituminous coal makes up about 45%, and coal and coke together 60%. Iron and manufactures make up 15%.

While the mileage has increased but slightly, gross earnings have increased enormously, rising from four and a half million dollars in 1896 to $14,481,495 in 1906. The great rise came between 1899 and 1902, the traffic of the road being doubled in four years. The increase for 1905 amounted to more than 25%, and for 1906 to 12%.

The freight rates of the road are comparatively high, averaging .68c. per ton-mile in 1906. This was a considerable increase over 1899 when the average earnings were only .57 cents. The increase amounted to 20%. The difference would represent on the 1,896,158,559 tons carried one mile in 1906, a difference of over two million dollars in the gross earnings of the road. With the community of interest idea, and in the prosperity of the bituminous coal industry, the interests of the road are very closely bound up.

Maintenance.

Details of traffic density and maintenance over a series of years are shown in the following table:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900.........	5,582,270	$11,044	$7,101	$18,145
1901.........	5,857,688	14,948	5,835	20,783
1902.........	7,494,003	15,455	8,604	24,059
1903.........	7,622,328	15,296	12,442	27,738
1904.........	6,811,229	13,329	12,539	25,868
1905.........	8,568,288	19,260	16,659	35,919
1906.........	9,927,531	19,236	20,348	39,584

As with the other Vanderbilt lines, a change was made in the accounting methods in 1905 and separate items entered for new construction and new equipment, previously lumped in with expenses of operation. These items have been included in the table above in order to preserve its comparative value. Actually, for 1906, maintenance of way amounted to $7,144 per mile and the maintenance of equipment to $6,611 per mile, or a total of $13,755 per mile. When the $4,933,000, expended for new construction and new equipment, was added in, the total was as shown in the table above.

Taking the figures as a whole, it will be seen that this road in 1905 and again in 1906 spent more in maintenance and improvements per mile than most of the American roads have cost per mile to build and equip, and more than the actual gross mileage capitaliza-

tion of such roads as the Chicago & Northwestern, the Burlington, the St. Paul, the Canadian Pacific, etc. For a series of years these enormous surcharges have formed part of the systematic policy of the road.

The nominal surplus earnings in 1906 amounted to $2,485,021, as against $2,142,000 in 1905 and $1,472,000 for the year preceding. This was 24.8% on the capital stock as against 21.4% in 1905, and 14.2% in 1904.

But if to the nominal surplus were added the sums spent for new equipment, and new construction, the actual surplus would have been 38% in 1904, 64.5% in 1905, and 74.8% in 1906. This latter figure stands against a similar estimate of 23.1% for the Lake Shore.

The road paid 6% dividends from 1884 to 1891; 8% in 1892; 10% annually to 1906, and 11% in 1906. Should the present earnings continue, undoubtedly extra dividends will be declared. If the Lake Shore pays 10%, with actual earnings in the neighborhood of 23%, and is worth $300 a share; it is fair to assume that the Pittsburgh and Lake Erie, paying 11% and on a similar basis earning 74%, should be worth considerably more. The stock is not listed on any exchange, and practically none of it is on the market. Probably there are very few holders who would part with their stock under present conditions at less than $400 a share, and while on this basis the present dividend would yield only about 2½%, yet the undistributed surplus of 1906, amounting even after deducting extraordinary improvements to 13.8% over the 11% paid, is so large as readily to justify such a price, or perhaps a still higher figure. Dividing the actual surplus for 1906 half and half, the road might have paid a 30% or 35% dividend as easily as the Lackawanna paid 20%.

PITTSBURGH, CINCINNATI, CHICAGO AND ST. LOUIS RAILWAY.

(The Panhandle.)

The Pittsburgh, Cincinnati, Chicago and St. Louis Railway, familiarly known as the Panhandle, is one of the subsidiary lines of the Pennsylvania Company. It operates a line more or less parallelling the Pennsylvania's own line from Pittsburgh to Chicago. reaching also to Cincinnati and to Louisville. It forms a sort of middle link in the Pennsylvania system, with the Vandalia for St. Louis and Illinois points and with the Grand Rapids and Indiana for Michigan points.

The road represents the consolidation in 1890 of the Pittsburgh, Cincinnati and St. Louis; the Chicago, St. Louis and Pittsburgh; the Cincinnati and Richmond, and the Jeffersonville, Madison and Indianapolis railroads. It controls by lease the Little Miami, 194 miles, and its owns the entire capital stock, $2,000,000, of the Cincinnati and Muskingum Valley Railroad. It owns a one-third interest in the control of the Hocking Valley, that is, $2,308,200 par value of the common stock.

Ownership.

The Pennsylvania Company owns $22,470,000 par value of the preferred stock (81%) of the Panhandle, and $14,587,000 par value of the common stock, or a large majority interest. The directors and executive officers of the Panhandle are practically the same as those of the Pennsylvania Company.

Capitalization.

The capital account on January 1st, 1907, stood as follows:

Common stock	$25,226,769
Preferred stock	27,563,922
Total	$52,790,691
Funded Debt	50,921,000
Coll. Oblig.	2,500,000
Car Trusts	10,093,795
Total Capital	$116,305,486

Rentals capitalized at 4%	34,050,000
Approx. gross capitalization	$150,355,486
Securities held	5,571,930
Approx. net capitalization	$144,783,556
Approx. net capit. per mile	$101,311
Aver. miles operated	1,429
Net earnings on net capital	6.6%
Stock on net capitalization	31%
Fixed charges on total net income	54%
Factor of Safety	46%

The estimated net capitalization per mile of the Panhandle, $101,311, compares with a similar estimate of $177,354 for the Pennsylvania Company, $78,987 for the Lake Shore, $69,150 for the Wabash, and $58,374 for the Big Four, all contiguous roads. The net earnings represent 6.6% of the estimated net capitalization, as compared with 5.8% for the Pennsylvania Company, 5.3% for the Big Four, and 12.7% for the Lake Shore. In other words, its capitalization on the basis of earnings is about the same as that of the Pennsylvania Company and the Big Four, but very high as compared with the Lake Shore.

Aside from its holdings in the Hocking Valley Railroad, the Panhandle has no considerable equities in other roads.

The stocks represent about two-fifths of the estimated net capitalization, as against about one quarter for the Pennsylvania Company. Fixed Charges in 1906 consumed a little more than half of the total net income, leaving an ample Factor of Safety for the underlying securities, guaranties, etc.

Increase of Capitalization.

The increase of capitalization over six years was as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1900	$25,210,721	$22,700,793	$46,515,000	$94,426,514	$22,264,923
1906	25,226,769	27,563,922	53,421,000	106,211,691	34,485,500

Net increase over six years: Nominal Capital, 11%; Gross Earnings, 54%.

Character of Traffic.

Products of mines make up 54% of the total freight tonnage, and of this two-thirds was due to bituminous coal. Manufactures make up 26%; farm products a little less than 9%.

Stability of Earnings.

In ten years the gross earnings have doubled, while the mileage has but very little increased. The gross earnings per mile rose from $11,930 in 1896 to $24,133 in 1906. That this increase has been steady and continuous, showing practically no setback from one year to the other, the following detail shows:

Year	Miles Operated	Gross Earnings	Earnings per Mile
1896	1,403	$16,738,812	$11,930
1897	1,403	17,683,947	12,176
1898	1,403	18,942,651	13,501
1899	1,403	21,196,817	15,108
1900	1,407	22,264,924	15,824
1901	1,407	24,290,892	17,264
1902	1,416	26,634,358	18,809
1903	1,418	28,960,821	18,783
1904	1,423	28,532,475	20,050
1905	1,427	31,417,095	21,863
1906	1,429	34,485,500	24,133

Under the Community of Interest arrangement, the average earnings per freight ton-mile increased from .55 cents in 1899 to .65 cents in 1906, or one mill per ton. This, on the 3,844,000,000 tons carried one mile would represent a difference of about $3,800,000 on the gross earnings for 1906. Average earnings per freight ton-mile increased only from .13 cents to .16 cents, so that comparatively little of this increase in rate resulted in net profit to the road. Still it meant a difference of over $1,000,000 in the net freight earnings of the road for 1906.

Maintenance.

The traffic density of the road is rather heavy, 2,690,091 ton-miles per mile of road operated in 1906. Its maintenance charges were very heavy, amounting to $7,944 per mile in 1906.

The company had in 1906 457 miles of additional main track, or about 35%. The details of the traffic density and maintenance follow:

Year	Traffic Density	Maintenance per Mile		Total per Mile
		Way	Equipment	
1901.........	1,939,173	$2,197	$3,026	$5,223
1902.........	2,019,448	2,460	2,504	4,964
1903.........	2,088,097	2,500	4,016	6,516
1904.........	1,983,768	2,292	3,638	5,930
1905.........	2,440,148	2,735	4,175	6,910
1906.........	2,690,091	3,222	4,722	7,944
Average....	2,193,454	$2,567	$3,680	$6,247
Erie..........	2,366,817	1,845	2,890	4,735
Lake Shore...	3,102,376	4,308	4,093	8,401
Penn. Co.....	3,246,341	3,314	4,139	7,453

Improvements.

From the surplus earnings the following sums have been set aside for improvements:

1900................................	$690,601
1901................................	1,419,756
1902................................	808,661
1903................................	347,351
1904................................	690,058
1905................................	1,000,000
1906................................	900,000
Total........................	$5,856,427

Surplus Earnings.

In the face of a very heavy increase in maintenance charges (from $5,223 to $7,944 per mile), the surplus earnings increased from $2,382,351 in 1900 to $4,517,586 in 1906. The preferred stock is entitled to 5% dividends after 3% has been paid on the common, but in the following table the percentage earned on the common is the per cent. of surplus shown for the common after the preferred dividend is actually paid.

Year	Surplus	Dividends on Preferred Stock	Per cent. Earned on Common	Dividends Paid on Common	Average Price Common
1900.....	$2,382,351	4	5.9	—	68
1901.....	3,696,992	4	11.3	1%	64
1902.....	2,249,309	4	5.3	3	83
1903	2,425,741	4	5.2	3	71
1904.....	2,920 238	4	7.3	3	65
1905.....	4,080,311	4	11.8	3	70
1906.....	4,517,586	5	12.4	3½	81

In 1906 a change was made in the method of accounting, whereby the principal paid on car trusts was separated from the interest thereon, and charged in after surplus, instead of being included in fixed charges as heretofore. In order to make the comparison with 1906, the amount so paid in 1905 ($506,112) has been added in the above table to the nominal surplus shown in 1905, but has not been so added in the previous years. This accounts for the sudden increase of surplus shown from 1904 to 1905 and 1906.

Dividend Record.

The dividend record for a series of years is as follows:

Year.	Preferred. %		Common. %
1891	1		
1892-93	4		
1894	2		
1895	nil.		
1896	2		
1897-8	nil.		
1899	3	1901	1
1900-1905	4	1902-6	3 yearly
1906	5	1906	3½

The Balance Sheet.

Excluding material on hand, according to the custom adopted in this book, the balance sheet, December 31st, 1906, showed:

Current Assets	$6,241,567
Current Liabilities	10,074,700
Leaving a debit balance of	$3,833,133

Included in the current liabilities shown above, was $4,250,000 due to the Pennsylvania Company for advances on construction, and this amount due to the holding company might legitimately be deducted from the current liabilities shown above. The item of cash amounted to $1,619,960 and the balance to credit of profit and loss was $3,826,488.

The company paid into the sinking fund during the year of 1906, $449,990, and $596,133 as principal on car trusts, both of which items were charged against income.

Investment Value.

The preferred stock is entitled to 4% dividends and after 3% has been paid on the common, to an additional 1%, and after 5% has been paid on the common both classes share alike.

Since the advent of the Cassatt administration in 1900, 4% has been paid continuously on the preferred. In 1906 the stock was put on a 5% basis. It sold as low as $90 per share in 1903-4, rising to $112 in 1905 and $109 in 1906.

Inasmuch as a handsome surplus had been earned on the common, the preferred may be regarded as a fairly solid 5% stock, entitled to sell, with time money at 4%, at from $100 to $125 per share,—or better, in view of the proviso by which the stock may receive dividends additional to 5%, when that amount has been paid on the common also.

Including the amounts paid on car trusts as a part of the surplus income, the common in 1906 showed 12.4% after payment of the full 5% dividend on the preferred. 3% annually has been paid on this stock from 1902, and in 1906 the stock was put on a 4% basis. This dividend was amply earned and should the handsome increase of earnings which the road has shown in previous years continue, the stock might readily be placed on a 5% basis. The stock sold as high as $105 per share in 1902, declining to $55 per share in 1903, rising again to $87 per share in 1906 and declining to $67 in March of 1907.

As a fairly solid 4% stock, with prospects of an increase to 5%, the stock might reasonably sell, with money at 4%, well towards par and if bought, therefore, at anything like the low levels of 1907 or 1903, it should show in time a satisfactory profit to its purchaser.

READING COMPANY.

The greatest of the great "Coalers," having larger holdings in the anthracite coal fields than all of the other prominent coal roads put together, with a stormy past, and undoubtedly a great future, the "Reading," as it is known, is one of the most notable of American railways, outside of the great trunk lines.

Although it operates directly only a thousand miles of road, it controls by stock interests and otherwise more than a thousand more. On its own lines its gross earnings amount to nearly forty millions of dollars. It has a majority interest in the Central Railroad of New Jersey; and the operations of the company include one of the largest coal properties in the world. Since the anthracite coal fields are limited, it is probable that these holdings will steadily increase in value, and already their estimated valuation is sufficient to wipe out a large part of the indebtedness of the road, leaving the railroad properties and all its stock holdings to the shareholders free of charges.

History.

The Reading was originally projected simply to carry coal from the anthracite coal basins in Schuylkill County, to tidewater at Philadelphia. From this slender beginning, it was able to build up so that in 1892-3, it formed a system owning or controlling over 8,000 miles of track. This was under the famous McLeod management, which came to so disastrous an end in the general toppling of financial edifices in 1893. It had then leased the Lehigh Valley, obtained control of the Delaware and Lackawanna, and the McLeod management had also gained the upper hand in the Boston and Maine, and the New York and New England railroads. The combination was one of the most spectacular that had been formed up to that time, and at the close of 1892, Mr. Van Oss, writing in his "American Railroads," said that "it is certain that though a few years must elapse before we shall be in a position to gauge their full bearing, we are justified in expecting wondrous results."

The "wondrous results" were never realized, the lease of the

Lehigh was broken, and out of the wreck of this monstrous combination, the present Reading Company was formed. It took over the old Philadelphia and Reading Railroad and the Philadelphia and Reading Coal and Iron Company, the reorganization being effected in 1896. The new company did not speedily prosper, but in 1901 the property came under the directing genius of George F. Baer, who, despite temperamental peculiarities, has brought the road to a high point of efficiency and prosperity.

The mileage of the company carries the road from its central point, Philadelphia, through Reading, up to a perfect network of railways in the anthracite regions, while other branches lead to Port Reading, opposite Staten Island, N. Y., and southward from Philadelphia to Atlantic City and Cape May. The Wilmington and Northern, and the Perkiomen and other small roads are also included as a part of the system. Naturally the road operates in close conjunction with its subsidiary line, the Central R. R. of New Jersey.

Ownership.

At the beginning of 1903 it was announced that the Baltimore and Ohio and the Lake Shore had jointly purchased control of the road. At the last reports the Baltimore and Ohio owned $6,065,000 of the first preferred, $14,265,000 of the second preferred, and $10,002,500 of the common stock; and the Lake Shore a similar amount of each issue. This gives a total of over $60,000,000 of the $140,000,000 of the capital stock of the company, and this with the private holdings of associated interests, assures absolute control. Morgan interests have long been identified with the fortunes of the Reading, and exercise a potent voice in its affairs. The stock is closely held, despite the enormous tradings which have been carried on in the stock exchange.

The directorate of the road includes H. McK. Twombly, representing the Vanderbilt interest; Charles Steele, representing the Morgan interests; George F. Baer, president of the Reading and likewise of the Central of New Jersey, and a director in the Lehigh Valley; Henry A. Dupont, president and general manager of the subsidiary Wilmington and Northern; Joseph S. Harris, capitalist, president of the Jerome Silver-Copper Mines; Edward T. Stotesbury, also a director in the Lehigh Valley, the Cambria and Pennsylvania Steel companies, and similar corporations; Henry C. Frick, also a director in the Norfolk and Western, the Union Pacific, the Chicago & North Western and other roads, and understood

to be one of the heavy stockholders of the Reading; Henry P. McKean, and Samuel Dickson.

The directors of the subsidiary companies, the Philadelphia and Reading Railway, and the Philadelphia and Reading Coal and Iron Company, are practically the same; and the three companies are managed as a coherent whole.

Capitalization.

Organized into three separate companies, with practically identical officers, the accounts of the Reading and its two subsidiaries present an intricate and confusing scheme of interlacing accounts which tend to make analysis difficult and somewhat arbitrary.

The "Reading Company" owns the entire capital stock of the Philidelphia and Reading Railroad, and the Philadelphia and Reading Coal and Iron Company, as well as large amounts of their bonds and a large item of debt from the coal company. In the following scheme the stocks and bonds of the two subsidiary companies held by the Reading Company have been included among the items of securities held, together with the $79,000,000 of the coal company's debt. They have not been otherwise included in the estimate of capitalization; on the other hand, all of the stocks and bonds of the two subsidiary companies held by the public are comprised in the following statement, which is the estimated capitalization of the Reading *Company*.

Common stock	$70,000,000
First Preferred	28,000,000
Second Preferred	42,000,000
Total stock	$140,000,000
Funded Debt, Reading Co	100,978,372
" " " " equip	4,242,000
" " P. & R. (net)	50,339,521
P. & R. Coal & I. Co. Loan	1,290,000
Total capital	$296,849,893
Rentals capit. at 4%	76,525,000
Approx. gross capital	$373,374,893
Securities held by all Cos	211,732,736
Approx. net capital	$161,642,157

Approx. net cap. per mile.............	$161,642
Average miles operated...............	1,000
Net earnings on net capitalization......	10.8%
Stock on net capitalization.............	86%
Fixed Charges (net) on total net income	45%
Factor of Safety......................	55%

Of the total funded debt of the Philadelphia and Reading Railway Company, twenty millions of dollars of Purchase bonds are held by the Reading Company, which item is deducted, leaving a net funded debt of the Railway as stated.

The rentals paid amounted in 1906 to $3,061,000, a considerable part of which returns to the treasury of the Reading company through its ownership of the stocks and bonds of these leased lines.

It will be seen that even deducting the huge amount of securities owned, the estimated net capitalization for a thousand miles of road is high. It compares with an estimated net capitalization of $145,566 for the Pennsylvania, and of $132,789 for the Lackawanna.

Yet, even with this high estimated capitalization, the net earnings of the road show a high percentage. The net earnings here taken are simply the net earnings of the Philadelphia and Reading Railway, and are exclusive of the items of Other Income alike of the Railway Company and of the parent Reading Company. Even on this basis, the net earnings show 10.8% on the estimated net capitalization, as against similar estimates of 8.1% for the Pennsylvania and 13.7% for the Lackawanna.

It will be seen further that the securities held nearly equal the outstanding funded debt of the combined companies, so that the capital stock of the Reading Company represents 86% of this estimated net capitalization.

Moreover, the net Fixed Charges, that is to say, taxes and interest on bonds, etc., held by the public, amount to only 45% of the Total Net Income, leaving a wide Factor of Safety for the securities of the company.

The surplus over and above the net fixed charges likewise leaves a considerable margin of safety for the dividends on the $70,000,000 of preferred stock, limited to 4% and non-cumulative.

Equities Owned.

Of the $200,000,000 and more of securities held, very much the larger part is represented by stocks and bonds of the three allied companies. The chief items of the latter are as follows:

Reading Company general mortgage bonds...........	$4,507,000
Philadelphia and Reading Purchase bonds...........	20,000,000
Philadelphia and Reading Purchase stock (all)......	20,000,000
Philadelphia and Reading Coal and Iron Company's stock (all)..................................	8,000,000
Philadelphia and Reading Coal and Iron Company's debt to Reading Company (all)..................	79,165,226
Pennsylvania and Reading, account new machine shops	1,200,000
Total............................	$132,872,226

Of the $70,000,000 of remaining securities the chief items are as follows:

Central of New Jersey Company's stock, par value of $14,-504,000 purchased for about $23,000,000, and worth much more now.

Lehigh Valley Railroad stock, par value $1,000,000, and now worth more than twice its nominal value.

The Perkiomen R. R. stock (all), par value $1,500,000.

The Philadelphia and Reading Terminal Company's stock, par value $8,500,000.

Wilmington and Northern R. R. stock (practically all), $1,495,600.

The total of sundry bonds is carried on the books at a valuation of $18,884,000; and sundry stocks (including the Central R. R. of New Jersey, etc.) are carried at a valuation of $52,355,000.

The chief items of income of the Reading from its holdings include the interest on the Pennsylvania and Reading Purchase money mortgage, $1,200,000; dividends on stock (30%), $6,-000,000; interest on coal company debt (2%), $1,583,304; other interest and dividend receipts, $1,618,000.

Coal Holdings.

Over and above the net earnings of the railway company, of all the Reading Company's equities, by far the most important are those of the Coal Company. The coal company is organized with a capital of $8,000,000 and its funded debt, outside its large item of debt to the Reading Company, is very small. Its gross receipts for 1906 amounted to $34,038,000 and in 1905 to $36,099,000. The net earnings shown in 1905 amounted to $4,063,000, but in 1906, owing to the troubles in the anthracite districts, this sum was reduced to $3,160,000.

Improvements to the amount of $1,730,000 were charged off in 1905, leaving an operating profit of $2,232,000. This was sufficient to pay the fixed charges, 2% on the Reading Loan, and set aside five cents per ton on all coal mined, amounting to $478,000. This latter sum goes to the Depreciation of Coal Land Funds. After all these charges and deductions, there still remained a small amount to charge to Profit and Loss.

In 1906, although the improvements item was cut down to $1,131,000, the operating profit shown was only $2,029,000. This, with fixed charges and 2% on the Reading Company's loan, left a nominal deficit of $130,000, which was charged off from the profit account of previous years.

The company's sales of anthracite showed an average price received of $3.19 per ton in 1906, and the operating profit, before improvement charges, showed an average of 30 cents per ton. In 1905 this item was slightly higher. It will be noted that it is about the same figure as that shown by the reports of the Delaware and Hudson Company's coal operations.

Assuming, as has been done in the case of the Delaware and Lackawanna and the Lehigh Valley, that this figure forms a fair basis upon which to estimate the value of the company's coal holdings, we should thence derive an enormous sum. The Reading's anthracite coal fields amount to 102,000 acres, and the estimate of unmined coal on this property, not including the discovery of new veins in 1906, is put at 2,450,000,000 tons. If this enormous amount were computed to be worth 30 cents a ton to the operating company, this would fix the valuation for the Reading's holdings at $735,000,000.

This seems like a perfectly fantastic sum, and yet if it were cut down two-thirds, and this unmined coal estimated as worth only 10 cents per ton, this would still yield a sum of $240,000,000, or sufficient to pay off the outstanding bonds of the three companies now in the hands of the public, and show more than 50% on the total capital stock of the Reading Company besides. Whatever might be the realizeable value of this asset, it is undoubtedly this which, combined with the favorable outlook and efficient management, lifted the stock to so high a figure in 1905-6.

At the present time this asset is covered by an entirety of stocks and debt of only $89,000,000.

Nevertheless it is an extraordinary fact that for thirty years, from 1870 to 1900, these coal lands were, at least as regards their direct operation, a heavy burden for the owners, and that $79,-000,000 of debt was accumulated within this period, upon which, up to 1900, not a cent of interest was ever paid. Only 2% is paid now, without apparently much justification for an increased rate in the immediate future.

Yet another striking fact is that in five years to 1906, the amount of anthracite mined has increased very slightly, and, correspondingly, the railway's anthracite tonnage, while the tonnage on bituminous coal has doubled. The Reading's great prosperity does not, paradoxical as it may seem, result from the working of its greatest asset.

The truth as to these extraordinary holdings remains today much the same as in 1885, when it was very wittily summed up by the shareholders' committee, appointed to investigate these coal lands, and report upon their value:

"To do this is as difficult as to fix a value upon the exclusive right to the fisheries off the coast of Newfoundland. It would depend entirely upon the amount required by the market, and the cost of producing the supply. The value cannot be based upon an estimate of the number of fish uncaught at so much per fish. This coal territory is one of the richest assets on the planet and will be so long as anthracite coal continues an essential commodity in domestic, manufacturing and other uses, and doubtless can be made to earn a profit both for the Railroad and the Coal and Iron Company."

Other Equities.

The other equities are small as compared with those of the great Indeterminate. Nevertheless some of them are of value. The controlling interest in the Central of New Jersey was purchased on a basis of a little over $155 per share, is comfortably earning its dividend of 8% and is reasonably worth over $200 per share. The latter company is, moreover, heavily maintained, as reference to its report will show, and the Reading's interest in the concealed earnings of the road would readily amount to from half a million to one million dollars or more per year, for several years.

The Reading's holdings of one million dollars of the stock of the Lehigh Valley will probably receive in the course of a year or two from 50 to 100% higher dividends than in 1906.

Yet another item is the stock of the Reading Iron Company which is paying 6% dividends, and apparently earning a great deal more. The net outstanding bonds of this company amount to only $200,000, while the assets show at above $12,000,000. This is all clear to the Reading Company, which owns all the stock. The Iron Company owns 61,671 shares of the preferred and common stock of the Pennsylvania Steel Company, worth respectively above $100 and $50 per share.

Increase of Capitalization.

Since its reorganization in 1896, the capital stock has not changed, and in the six years from 1900 the funded debt has increased but slightly. In this same period gross earnings have increased 50%, which speaks very highly for the prospects of the road.

Year	Common Stock	Preferred Stock	Funded Debt (net)	Total Capital	Gross Earnings
1899–0. .	$70,000,000	$70,000,000	$120,434,288	$260,434,288	$26,109,733
1905–6. .	70,000,000	70,000,000	156,849,893	296,849,893	39,658,040

Increase over six years: Total capital, 13%; gross earnings, 50%.

Character of Traffic.

Since the new order of things which came into the Reading's management through the assumption of control by the Baltimore and Ohio, that is to say, the Pennsylvania interests, and the Lake Shore, that is to say the New York Central interests, a marked change has come over the character of the business which the Reading has done. The road still remains essentially a "Coaler," that is to say, of its gross earnings over 40% is from its coal traffic, and this item was likewise considerably in excess of the entire amount received from other freight business. Since 1899 both classes of freight have increased over 60%; but by far the larger part of the increase in coal traffic has been the added bituminous coal tonnage. This latter stands now only a little way below the anthracite tonnage, and if this rate of increase should be maintained, it will soon exceed the anthracite. This latter gain is from an interest not owned or controlled by the railroad itself, and may therefore be considered a much healthier source of traffic than one specially fostered by a railway.

All told, freight earnings yield over 80% of the railways's gross earnings, the passenger traffic yielding less than 15%.

The company does not further itemize its traffic.

Stability of Earnings.

The figures for the full year of 1896-7 are not available, but since 1898 gross earnings, and likewise gross per mile have increased nearly 90%. The increase in mileage has been very slight. Moreover this gain in earnings has apparently been derived almost exclusively from gain in business, and not from an increase in rates. Apparently the rates which the Reading was receiving in 1906 are but little in advance of those of the bed rock year of 1899. In that year the average rate per ton-mile on the coal traffic was .68c. per ton per mile, and on merchandise traffic, .95c. In 1906 these rates were identically the same. Apparently the rates received on the anthracite tonnage are higher, but this has been balanced by the growth of the bituminous coal traffic, doubtless carried at a somewhat lower rate. Be this as it may, the average remains the same.

Whence then has come the great increase of business shown in the tables below? Undoubtedly co-operation between the Vanderbilt and Pennsylvania interests has thrown to the Reading a considerable quantity of business which it did not have when it was an active competitor of both these systems. Moreover all the roads of the country have shown a vast development of business within the same period, and what remains may probably be set down to intelligent and energetic management. The following is the table for the nine years under view:

Year	Miles Operated	Gross Earnings	Per Mile
1897–8............	914	$21,475,242	$23,503
1898–9............	915	22,456,193	24,540
1899–0............	1,000	26,109,733	26,109
1900–1............	1,000	27,617,422	27,617
1901–2............	1,003	29,170,378	29,083
1902–3............	1,010	31,708,524	31,394
1903–4............	1,012	34,250,489	33,844
1904–5............	1,015	36,832,070	36,287
1905–6............	1,000	39,658,040	39,658

Maintenance.

Under the new regime the Reading has been charged very heavily for maintenance and more heavily in 1906 than ever before, as the following table will show:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1901–2.......	2,825,301	$2,970	$3,532	$6,502
1902–3.......	3,192,286	2,989	4,852	7,841
1903–4.......	3,297,350	3,047	5,627	8,674
1904–5.......	3,686,007	2,696	5,567	8,263
1905–6.......	4,103,534	3,195	6,330	9,525
Average....	3,420,895	$3,033	$5,181	$8,215
Penn.........	3,862,251	3,468	4,983	8,632
Lehigh Valley.	2,771,846	2,588	3,429	6,017
Lackawanna..	3,079,629	4,754	3,579	8,333

Miles of extra main track, 540.

The average for maintenance of equipment in 1906 was $2,-250 per locomotive, and $62 per freight car. The first was liberal; the second undoubtedly represented some surcharge, especially in view of the fact that one-half of the freight cars thus included were coal cars of an average capacity of under 25 long tons.

Undoubtedly, under the pinch of necessity, this charge could be considerably reduced without affecting the service of the road.

Improvements.

In addition to the regular charges for maintenance the sum of $3,539,000 was set aside from the surplus earnings of 1906 for improvements, that is to say, a larger sum than that devoted to the entire charges for maintenance of way.

Similar sums have been appropriated through previous years as follows:

1901-2..............................	$2,006,400
1902-3..............................	2,228,700
1903-4..............................	1,273,700
1904-5..............................	979,600
1905-6..............................	3,539,300
Total......................	$10,027,700

These are nothing like the sums which have been set aside by the Lackawanna, but mileage considered, they compare favorably with the Pennsylvania, and they exceed the appropriations of the Lehigh Valley.

These items, too, are exclusive of sums averaging above one million dollars a year appropriated for "new work"; that is to say, improvements to the coal company.

With such an improvement fund, the Reading should certainly be in good physical condition and as a matter of fact its borrowings in the five years have been small. Practically all the improvements which have been carried out in this period, and these have been extensive, have been paid for from surplus earnings.

Surplus Earnings.

Before charging off the extensive improvements and the amounts set aside for sinking fund, which amounted to $502,000 in 1906, the surplus for six years has shown as follows:

Year	Surplus	Dividends on Prefer, red Stock		Per cent. Earned on Common	Dividends Paid on Common	Average Price (on $100 par)
1900–1.....	$6,058,892	4	–	4.6		21
1901–2.....	5,249,713	3	–	3.5		39
1902–3.....	7,293,874	4	1½	6.5		62
1903–4.....	10,204,338	4	4	10.5		51
1904–5.....	12,729,635	4	4	14.1	3½	55
1905–6.....	12,513,563	4	4	13.8	4	107

Adding together the three and a half millions devoted to railway improvements, the $1,100,000 for colliery improvements, and the $502,000 for sinking fund, the total deductions from the surplus shown above, for 1906, amount to $5,172,000, leaving a net surplus of $7,340,000, which is the amount shown in the consolidated accounts of the report, less the sinking fund payment. Deducting $2,800,000 4% dividends on the preferred stocks, this left about $4,500,000 net surplus for the $70,000,000 of common stock. This was equivalent to 6.5%.

Dividend Record.

In the early days the Philadelphia and Reading was a prosperous road, and paid dividends from 1870 to 1875 inclusive at the rate of 10% per year. It suffered with other roads in the decline which set in about that time; in 1876 it paid only 2½%, and nothing thereafter to 1900.

The reorganization in 1886 did not bring it out of the slough into which it had fallen, and under the Corbin regime, it went from bad to worse. In 1890 A. A. McLeod was elected president and this seemed to be the beginning of a new era, but the ornamental dreams of that gentleman came to grief even before the collapse of 1893.

In 1900 3% dividends were paid on the first preferred stock; in 1903 dividends were begun on the 2nd preferred, and in 1905 on the common. The full record of the reorganized road is as follows:

	1st Preferred	2nd Preferred	Common
1900	3	–	–
1901	4	–	–
1902	3	–	–
1903	4	1½	–
1904	4	4	–
1905	4	4	3½
1906	4	4	4

The Balance Sheet.

The balance sheet of the Coal Company for the fiscal year of 1906 showed current assets to the amount of $7,417,543
current liabilities of 2,326,646

leaving a working balance of $5,090,897

Of the assets the cash item amounted to $417,612, and of the liabilities, about $1,588,000 was account with the Reading Company and P. and R. Railway.

The amount to credit of Profit and Loss for the Coal Company was $1,259,920, a slight reduction from the previous year, owing to the nominal deficit.

The balance sheet of the Phila. & Reading Railway for the same year showed:

Current assets	$14,493,637
Current liabilities	7,061,139
Leaving a balance of	$7,432,498

Of the assets, $3,044,417 was due from the Reading Company, and $1,022,313 from the P. and R. Coal and Iron Co. The item of cash was $922,544. The amount to the credit of Profit and Loss was $9,772,001.

The balance sheet of the Reading Company showed:

Current assets	$2,721,699
Current liabilities	5,282,734
Leaving a debit balance of	$2,561,035

In addition to the assets included above, there was due from the Railway company on account of the new Reading machine shops

shops....................................	$1,200,000
Account bonds retired..................	394,844
Current account........................	469,554
A total of..................	$2,064,398

or nearly sufficient to balance the debit shown above. The item of cash in the current assets was $1,757,076. The amount to credit of Profit and Loss was $8,794,398.

Investment Value.

Few roads have shown such extraordinary rise in the value of their stocks as the Reading in the six years following 1900. The Reading stock, like that of the Pennsylvania and the Lehigh Valley, is in $50 shares, but the following quotations are made on the basis of a par value of $100, that is to say of two shares each, conforming to the custom of the New York Stock Exchange.

In 1900 the first preferred sold at 49, rising to 90 in 1902, and declining to 73 in the slump of 1903. It sold as high as 96 to 97 in 1905 and 1906. In other words, in the six years it about doubled in value.

Limited to 4% dividends, this stock is a solid investment with a wide margin of safety on the dividend, and is readily entitled to sell upwards of 90, that is to say, upwards of $45 per share, according to the prevailing rates for money.

The second preferred in 1900 sold below 24, that is to say below $12 per share, rising to 80 in 1902, and falling to 55 in 1903-4. It sold at 101 in 1905 and 1906.

The higher price shown by the second preferred is due to the fact that the company has a right to convert this stock into one-half first preferred and one-half common, and when the common stock rose to quotations of 160, it was natural that this possibility should create a slight preference in favor of the stock.

Still more astonishing was the rise in the price of the common. Reading common sold down to 15, that is to say $7.50 per share, in 1900, and in the succeeding five years it doubled its value four times and more. It sold up to 78 in 1902, declining to 38 in 1903. It more than doubled this figure in the succeeding year, rising to 82,

then to 143 in 1905 and to 164 in January, 1906; that is to say, in 1906 it sold for more than ten times the price of 1900.

Quotations of 164 for a 4% stock seem fantastic. The yield to the investor on this basis is only 2½%. Obviously such a price was in anticipation of an increased dividend; but it should be said further, that this high figure was undoubtedly due to stock market manipulation. This was relatively easy, owing to the small floating supply of the stock. It seems to be generally agreed that the heavy holders did not sell even at these high figures, and the inference is therefore that those in the confidence of the management anticipate an increase in the dividend in the near future. Undoubtedly too, the high price for Reading was in a considerable measure stimulatd by the extraordinary rise in the price of Lackawanna.

In the very moderate setback in the Spring of 1906, Reading sold down to 112, the result of weak speculative holders being obliged to throw over their margined stock for what they could get. The stock rose again to 156 in the fall of the year. It fell to 91 in March, 1907.

The question remains, What is a fair price for Reading? A glance at the table of surplus shown makes clear that even with heavy maintenance charges, and after charging off large sums for improvements, there has been sufficient surplus to meet a 6% dividend in both 1905 and 1906. This could have been paid comfortably.

But the prosperity of the Reading is acutely dependent upon the anthracite coal industry, and the bituminous as well. A setback from the highly prosperous conditions of the past few years, or the return of labor troubles would undoubtedly affect its earnings heavily. While therefore the road under present conditions seems amply able to earn a 6% dividend on its common, and at the same time set aside a large amount for improvements, it is evident that there is no solid guarantee that such a dividend could be maintained under the stress of adversity.

On the other hand it is clear that for the first time in long years, the Reading is under an efficient and conservative management, and with the working control of the company vested in rival and competitive lines, there seems little likelihood of a return of rate wars. Beyond all this, after thirty years of deficits, the Coal Company is earning its way, and a small percentage on its debt besides.

Owning all the stock and practically all of the debt of the Coal company, Reading absorbs absolutely all of the surplus the coal

properties can show. It is not clear, even from the progress made in the six years under review, that this surplus will rise very rapidly, but if anthracite conditions should continue favorable, it ought to improve somewhat. The outlook for Reading from this source therefore, seems fairly good.

The earnings of the railway have increased splendidly under the new regime, and barring a heavy setback in business conditions, these should continue to increase, even though it might not be at the same rapid rate.

Prosperous conditions through 1907-8 should certainly place the Reading on a five if not a six per cent. basis, with every prospect that in the course of time, these may be further increased. There is no road in the United States with anything like the potential assets of the Reading, and while its collossal coal holdings are difficult of assessment, they are certainly there. Though the possibilities of this asset should not be allowed to dazzle the investor, it is certainly to be taken into consideration in estimating the value of the stock.

Probably from the foregoing discussion the investor will conclude that while the prices of 1906 were high, they might readily be regained, even if a substantial recession should come. A highly speculative stock like Reading common, more or less under the control of market manipulators, is apt to show very violent fluctuations. It is not at all impossible that under panicky conditions, which recurrently come to the Stock Exchange, quotations might return to the low levels of 1906-7, i.e. to 112-91, and even, under stress, below this.

Realizing all this the shrewd investor will probably watch for such opportunities, believing that under 125 Reading common presents an attractive purchase. On a 6% basis, with favorable prospects, the stock would eventually sell at 150, and perhaps higher, for its increases in earnings are not, like the Pennsylvania, the result of heavy and costly improvements, the gain from which is covered largely by increased charges on new securities. But it should be added that there are few stocks on the list more subject to influences quite extraneous to the conditions and prospects of the property itself. In other words, it is one of the stock market playthings.

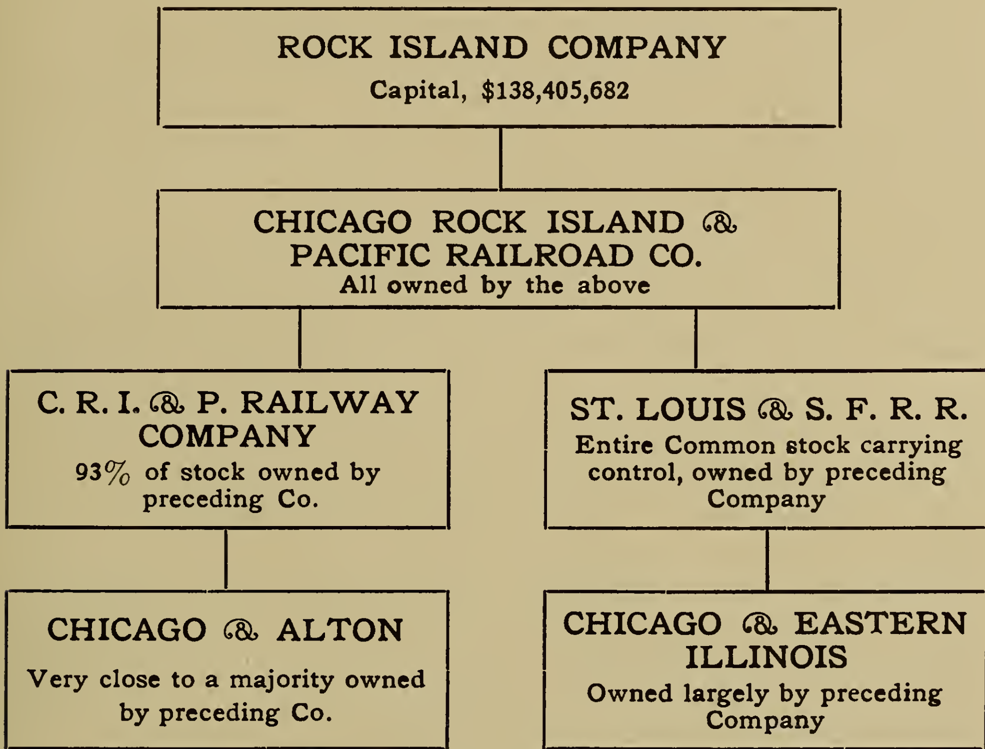
ROCK ISLAND SYSTEM.

ROCK ISLAND COMPANY.
CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD.
CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY.

The Rock Island System, so-called, is made up of several separate companies, separately operated, but under the same ownership and practically the same management. The system is one of the largest in the United States, operating in 1906 nearly fourteen thousand miles of road. If we add the Alton, which is practically owned by the Rock Island, this would bring the total to nearly fifteen thousand, reaching into seventeen states and territories. The lines of the system practically gridiron the vast Southwest, extending from Chicago and New Orleans, and westward to Denver and El Paso, and covering one of the richest sections of the country.

The corporate organization of the system is somewhat complex. The head of the organization is a holding corporation known as the Rock Island Company, with a capital outstanding of $138,000,000, and no debt. This company owns all of the stock, save the directors' shares, of the Chicago, Rock Island and Pacific *Railroad* Company. This corporation in turn owns about 93% of the stock of the Chicago, Rock Island and Pacific *Railway* Company, and all the common stock, carrying control, of the St. Louis and San Francisco Railroad Company, commonly known as the "Frisco." The Frisco, in its turn, owns a largely controlling interest in the Chicago and Eastern Illinois, and this company, again controls the Evansville and Terre Haute, which in turn leases the Evansville and Indianapolis Railroad Company. The *Railway* Company owns practical (though not absolute) control of the Chicago and Alton, which up to 1907 was operated in the joint interest of the Rock Island and the Union Pacific Railroad, the latter owning the larger part of the balance of the stock.

This intricate (and wholly needless) scheme will perhaps be better held in mind by means of the following diagram:



Only the part of the system known as the "Rock Island Lines"; comprising the old Chicago, Rock Island and Pacific, and its subsidiaries, will be considered in the analysis which follows. The Frisco system, including the Chicago and Eastern Illinois, etc., will be separately treated under the head of the St. Louis and San Francisco Railroad.

History.

The Rock Island, as it was currently known even before it took that name, has the distinction of being the first road to bridge the Mississippi River, and the second railway to reach the Missouri. It was organized in 1852 to build a railroad from Chicago to Rock Island, where a small island in the middle of the Mississippi offered a very favorable site for a bridge. This bridge was complete in 1856. It is amusing now to read of the efforts of the steamboat interests to prevent its erection, and even four years after its completion, that is to say in 1860, they actually obtained a decree from the United States courts for the removal of the bridge as "a material obstruction and a nuisance." This decree was signed by Judge Love, a famous western jurist.

The attorney of the railway company was Abraham Lincoln, who carried the case to the United States Supreme Court, and won, though only by a narrow margin. In the meantime repeated efforts were made to burn the bridge, and Frank H. Spearman, in his interesting book on "The Strategy of Great Railroads," relates how two employees of the Chamber of Commerce of St. Louis were arrested and tried for conspiracy to destroy the bridge in this way.

The part of the road separately built in Iowa was sold under foreclosure in 1868, and purchased by the parent company, the consolidation taking on the name of the Chicago, Rock Island and Pacific *Railway* Company. The line to Omaha was completed in 1869, in the same year as the completion of the Union Pacific-Central Pacific transcontinental line, and two years after the completion of the Chicago and North Western to the same point.

Thereafter the road grew rapidly, extending westward to Colorado Springs and Denver, and by means of a subsidiary company, the Burlington, Cedar Rapids and Northern, reaching to St. Paul and Minneapolis, and into South Dakota, while the construction of lines southwesterly from Kansas City carried the road finally to El Paso in Texas, where its through coaches are taken over the lines of the Southern Pacific to California.

The road had long been under the domination of the Cables in Illinois, but in 1901 a controlling interest was acquired by a syndicate headed by W. B. Leeds, formerly president of the American Tin Plate Company; Daniel G. Reid, his partner in the tin plate industry; William H. and J. Hobart Moore. Mr. Leeds was elected president on January 1st, 1902, and in the same year the complex series of companies described above were organized. The *railroad* company, organized in Iowa, offered the shareholders of the *railway* company to exchange their stock on the following basis: for each one hundred dollar share of the railway company's stock, $100 in 4% collateral trust bonds, and $70 preferred stock, and $100 of common stock of the Rock Island Co.; that is to say, the railway shareholders, for each $100 share, received $270 of the new securities. The Chi., R. I. & Pac. Railway company was then paying and for some time previously had been paying 5% on its capital stock. Through the twelve months preceding the organization of the new railroad company, the price of the railway stock had averaged $155 per share, and this in turn

was a heavy rise from the average of the fiscal year of 1901. The new securities were placed on the market in December, 1902, and through this and the following months sold at high prices. Had a shareholder made the exchange at that time and then unloaded his securities, he could have secured a maximum price of $89 for his bonds; $86 per share for his preferred stock (equivalent to $60 for the amount received) and $53 for his common stock, a total of $202 for securities that a year previously brought little more than half this. As a matter of fact, the railway stock about this period, sold as high as $206 per share.

In the general slump of 1903 and 1904, that followed, the bonds sold down to $66, the preferred stock to $56, and the common stock to $19, or a drop in the price of the securities received of $124.

Up to June 30th, 1906, all but 7% of the old railway stock had been exchanged, and in addition the railroad company had acquired $28,904,300 par value, the entire outstanding common stock of the St. Louis and San Francisco, paying for the same $17,342,580 5% collateral trust gold bonds of the railroad company, and about $19,500,000 common stock of the Rock Island Company.

In the year preceding this exchange, Frisco Common ranged between $90 and $63 per share, or an average price of $76, the price of $63 per share being reached in April, 1903, three months before the exchange; so that the purchasers paid for securities whose average market value through the preceding year was around $22,000,000, securities to a face value of $36,842,580, of which $17,342,586 were 5% gold bonds. The annual interest charges on these bonds to the Rock Island Railroad are $867,041. No dividends had ever been paid on the Frisco stock up to the time of the purchase, and none have ever been paid since.

In 1904 the railway company acquired nearly absolute control of the Chicago and Alton, holding in 1906, $14,320,000 par value of the common, and $4,870,000 preferred stock, a total of $19,190,000 out of $39,986,100 outstanding stock, an increase of $400,000 par value of the preferred from the preceding year.

At the close of the fiscal year of 1906 the Rock Island Lines were operating 7,426 miles, at the same time the St. Louis and San Francisco was operating 5,058 miles; the Eastern Illinois 949 miles, the Evansville and Terre Haute 310 miles, bringing the total mileage operated up to 13,743. With the Colorado and

Southern, the Rock Island is constructing the Trinity and Brazos Valley line from Houston to Galveston. The St. Louis and San Francisco is also financing the construction of the Colorado Southern, New Orleans and Pacific, extending from Houston, Texas, to Baton Rouge, from which by trackage rights it will reach New Orleans. This new construction will give both roads access to the principal ports of the Gulf. The St. Louis, Brownsville and Mexico is also under construction from Houston to Brownsville on the Rio Grande River, the Mexican border, by B. F. Yoakum, the directing head of the Rock Island system.

The Rock Island-Frisco system is becoming an active competitor of the Southern Pacific, so that with the completion of the Western Pacific, it may be supposed that its traffic will naturally be drawn to the new Gould line. The Rock Island lines meet the Denver and Rio Grande in Colorado, and the completion of the Western Pacific would afford the Rock Island a new outlet to the Pacific. In any event it is evident that the new roads now under construction will work a considerable transformation in traffic arrangements throughout the great Southwest.

Ownership.

Taking the constituent companies in order, the directorate of the Rock Island Company includes William H. Moore, also a director in the First National Bank, New York, and in the United States Steel Corporation; J. H. Moore, his brother; D. G. Reid, also a director in United States Steel; B. F. Yoakum, former president and now chairman of the board of the St. Louis and San Francisco; F. L. Hine, vice-president of the First National Bank, New York, also a director in the Liberty National; John J. Mitchell, president of the Illinois Trust Company; James Speyer of Speyer and Company, bankers, also a director in the Baltimore and Ohio; R. R. Cable, formerly chairman of the board; Robert Mather, president; George T. Boggs, secretary and treasurer; Ogden Mills, D. C. Boissevain, New York; George C. McMurtry, president of the American Sheet Steel Company and James Campbell, St. Louis.

The chairman of the board is Benjamin F. Yoakum, and the Finance committee (the equivalent of the Executive committee) consists of W. H. Moore, chairman, Robert Mather, James H. Moore, B. F. Yoakum, D. G. Reid, F. L. Hine and James Speyer.

The directors of the subsidiary Chicago, Rock Island and Pacific Railroad Company are Messrs. William H. and James H. Moore; B. F. Yoakum, D. G. Reid, and Robert Mather, president.

The directorate of the *Railway* company includes: Messrs. William H. and James H. Moore, Yoakum, Reid, Mather, Mitchell, Cable, Hine, Mills, McMurtry, and in addition, Alexander E. Orr, former president of the New York Life Insurance Company.

The executive committee consists of B. F. Yoakum, chairman, William H. Moore, James H. Moore, Robert Mather, D. G. Reid, F. L. Hine and James Campbell. The executive committee of the St. Louis and St. Francisco is the same.

The Rock Island representatives on the Alton board are: William H. Moore, James H. Moore, D. G. Reid, Robert Mather, B. F. Yoakum, and John J. Mitchell. Mr. Yoakum, in 1906, was made chairman of the board. By virtue of the fact that he is chairman of the boards of all the separate organizations of the Rock Island system, and also of the Alton, Mr. Yoakum may be regarded as the present operating head of the system, as Judge Wm. H. Moore is its financial head.

Capitalization.

The principal items in the complicated organization of the Rock Island system, June 30, 1906, were as follows:

ROCK ISLAND COMPANY.

Common stock	$89,448,802
Preferred stock	48,956,880
Total stock	$138,405,682
Surplus, 1906	$37,271

CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY.

Capital stock	$145,000,000
Funded debt	87,280,980
	$232,280,980
Surplus	$257,286
Cash in treasury	$874,111

The entire capital stock except $500 of directors' shares, is owned by the Rock Island Company.

CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY COMPANY.

Capital stock	$75,000,000
Funded debt	164,587,000
Equipment Trusts	1,250,000
Notes	13,500,000
	$254,337,000

All but $4,889,582 or about 7% of the stock is owned by the railroad company.

Capitalization of the System.

The following table of capitalization, consolidates the capital of the Rock Island system and includes: (1) the outstanding stock of the Rock Island Company and of the Chicago, Rock Island and Pacific Railway Company; and the funded debt and other obligations both of the railroad and railway companies. This gives the capitalization of that part of the combined Rock Island-Frisco system known as the Rock Island Lines, operating in 1906 an average of 7,218 miles.

Capitalization.

Common stock	$89,448,802
Preferred stock	48,956,880
Total stock	$138,405,682
Funded debt—The Railway Co	164,587,000
Equip. Trusts	1,250,000
Notes	13,500,000
Funded debt—The Railroad Co	87,280,980
C. R. I. & P. Ry stock	4,889,582
Total capital	$409,913,244
Rentals capit. at 4%	24,961,375
Approx. gross capitalization	$434,874,619
Securities held (Inc. $28,904,300 St. L. & S. F. stock at par)	47,601,810
Approx. net capitalization	$387,272,809

Approx. net capital per mile..............	$52,268
Average miles operated..................	7,218
Net earnings on net capital...............	4.2%
Stock on net capitalization...............	36%
Fixed Charges on total net income.........	83%
Factor of Safety.........................	17%

In the above table the entire rentals paid have been capitalized and not the net rentals. The reports do not itemize the "Other Income" of the system, so that the rentals received by the Rock Island have not been deducted in the make-up of the above estimate.

As a counter-weight to this, the $28,904,300 of the St. Louis Southwestern common stock in the treasury of the railroad company has been entered in the above at par, although it is receiving no dividends and never has received any.

Aside from the St. Louis and San Francisco common stock there are held by the railway company, securities to a par value of $38,757,094. The total of Other Income received by the system was approximately $1,057,000, which, if derived exclusively from income from investments would give an approximate value to the securities held of $25,000,000, so that the valuation of $47,000,000 given in the table above, leaves a leeway of $20,-000,000 for the value of St. L. & S. F. stock.

On this estimate of the approximate net capitalization the average capitalization per mile comes out at $52,268. The Rock Island formerly was usually classed in a group of four roads: the Burlington, the North Western, and the St. Paul. Latterly it has pushed more distinctly into the territory of the Missouri Pacific. To estimate its capitalization then, we may compare it with these four other roads in the following fashion (figures for 1906):

Road	Gross Earnings per Mile	Estimated Net Cap. per Mile	Per cent of Net Earnings on Capital
North Western.	$8,545	$30,252	10.5
St. Paul.......	7,961	33,900	9.7
Burlington.....	8,335	29,128	8.7
Missouri Pacific	7,101	30,745	7.7
Rock Island...	7,098	52,268	4.2

The percentage of net earnings shown by the Burlington on its estimated net capitalization is actually somewhat higher than the figure given above, owing to the fact that it charges its im-

provements directly to operating expenses instead of making a separate account, as do the other roads.

Beyond this it will be seen that the larger part of the Rock Island high capitalization is in the form of fixed debt, and that the capital stock outstanding represents only a little more than one-third of the estimated net capitalization.

All this goes to explain why it is that a prosperous road like the Rock Island, in a marvellously rich country, and with gross earnings per mile well up around those of its chief competitors, and even in the highly prosperous year of 1906, had to pay 83% of its total net income for fixed charges. This percentage compares with 45% on the Burlington; 32% on the St. Paul, and 39% on the North Western.

In 1902, the last year before the Chicago, Rock Island and Pacific Railway Company was turned into the Rock Island system, the road showed gross earnings of $7,278 per mile; its total capitalization in stocks and bonds per mile of operated road was $37,456, of which more than one-half was stock. The showing of net earnings on capitalization was 7.8%, and the fixed charges consumed 40% of the total net income, or about the same as the Burlington, the North Western and the St. Paul in 1906. These are rather startling changes.

Of the $266,000,000 of the outstanding bonds and debts of the system, very nearly $70,000000 is represented by the bonds issued by the Railroad company in exchange for Railway company stock, and $17,000,000 issued in exchange for St. Louis and San Francisco common stock. These two issues make up about one-third of the total. In some sense the $70,000,000 of collateral trust bonds mean but little more than a 4% preferred stock, with a difference however to the Rock Island Company, that if the earnings of the Railway were insufficient to meet these interest charges, the Rock Island Company's principal asset would revert to the holders of the Railroad company's bonds.

Equities Owned.

The principal equity of the Rock Island Company is its holding of nearly $29,000,000 of the St. Louis and San Francisco common stock. Reference to the report will show that the Frisco portion of the combined system is broadly similar in its financial condition to that of the Rock Island portion; that is to say, in 1906 its gross earnings were $6,322 per mile, and its approxi-

mate net capitalization per mile was $46,710. On this estimate of its net capitalization, net earnings showed 4.8%, as against 4.2% for the Rock Island; the stock represented only 21% of the estimated capitalization; fixed charges, in the highly prosperous year of 1906, consumed 82% of the total net income, as against 83% for the Rock Island. In 1906 the road showed a nominal surplus of $2,309,135, which was equivalent to 4% on both the first and second preferred, and 5% on the Rock Island's holding of the common; but it is to be noted that in that year the Frisco's average maintenance charges per mile were $1,548 against $1,933 on the Rock Island; $1,902 for the Missouri, Kansas and Texas; $1,948 on the St. Louis Southwestern, all three roads of about the same traffic density as the Frisco. In other words, the Frisco's total charges in 1906 were about $400 per mile less than the average of these other three roads. This, on 5,058 miles of operated road, would represent a difference of over $2,000,000, or the larger part of the surplus shown for the year, and very considerably more than the Rock Island's entire equity.

On the Rock Island's holding of Alton stock it received in 1906 the full 4% to which the preferred is entitled. The surplus remaining after maintenance charges about the same for a three years' average, represented about one per cent. on the common stock, as against 4% in the preceding year, and 2.7% in 1904.

Up to and during the fiscal year of 1906 the Alton was directly under the management of Mr. E. H. Harriman, President of the Union Pacific and chairman of the executive committee. At the close of the fiscal year, under an arrangement that the Union Pacific and the Rock Island shall manage the road in alternating years, Mr. Yoakum succeeded Mr. Harriman. Mr. Harriman, or the Union Pacific, owning only preferred stock, had no interest whatever in showing earnings for the common stock, of which Rock Island owns $14,320,000. The Alton scale of maintenance charges has been very liberal, but it would require a reduction of $200 per mile in these charges for each one per cent. surplus shown as earned on the common, supposing earnings to remain the same. The value of the Rock Island's equity in this stock, therefore, over and above the actual receipts was in 1906 small.

In 1905 the Rock Island purchased $2,500,000 5% bonds and $2,400,000 of the capital stock of the Consolidated Indiana Coal

Company; and in 1906 had secured $1,700,000 par value capital stock of the Deering Coal Company of Illinois, at a cost of $540,000 stock and $200,000 5% bonds at par, with an option on $800,000 further stock of that company. The report does not itemize the returns from these smaller investments.

Increase of Capitalization.

The capitalization and earnings of the Chicago, Rock Island and Pacific Railway at the close of the fiscal year of March 31st, 1901, and the capitalization and earnings of the Rock Island system at the close of the fiscal year of 1906 compare as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1901.....	$50,000,000	....	$68,081,000	$118,081,000	$25,364,695
1906.....	89,448,802	48,956,880	270,507,562	409,913,244	51,237,858

About $17,000,000 of bonds and as much more of stocks were exchanged in the purchase of the common stock of the St. Louis and San Francisco, and the acquisition of the Alton and other securities by the Railway company consumed a little over $18,000,000 more, or a total of approximately $55,000,000. Deducting this $55,000,000 from the $408,000,000 of gross capitalization of 1906, the net increase of capitalization in five and a quarter years was therefore about $235,000,000, or approximately 200%, as against an increase of gross earnings in the same period of 100%. This roughly explains why it was that Rock Island common in 1907 was selling around $18 per share as against a top figure of $206 per share for C. R. I. & P. Railway in 1902.

Character of Traffic.

Passenger earnings on the Rock Island are high, contributing about 25% of the gross earnings. Of the freight tonnage in 1906, 26% was agricultural products and 8% animal products, or a total of 34% from the farms; bituminous coal amounted to 19%; lumber to 9%, the balance being widely distributed.

Covering as with a gridiron the lower and western part of the Mississippi Valley, the prosperity of the Rock Island is in the end essentially dependent upon the prosperity of the farms. It is most vitally dependent upon the corn crop, that crop from Iowa southward generally predominating over the wheat crop.

Stability of Earnings.

In 1896 the Rock Island was operating 3,500 miles of road; in 1906 this mileage had been doubled, while the earnings per mile rose from an average of $4,861 in 1896 to $7,000 in 1906, an increase of very nearly 50%. This means that in the face of an enormous expansion of mileage, the larger part of which has been through much more thinly settled country than the older part of the line, the Rock Island has still been able to increase its average earnings per mile by more than half. No road in the west, all things considered, has in this regard made a better showing. The items through the period under view have been as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6	3,571	$17,359,653	$4,861
1896–7	3,571	16,728,685	4,684
1897–8	3,568	20,382,520	5,712
1898–9	3,619	20,647,246	5,704
1899–0	3,665	23,211,990	6,384
1900–1	3,772	26,075,574	6,912
1901–2	3,935	28,683,824	7,287
1902–3	6,978	44,376,619	6,359
1903–4	7,205	44,969,491	6,241
1904–5	7,232	44,051,509	6,091
1905–6	7,218	51,237,858	7,098

Maintenance.

The Rock Island's traffic density is considerably lower than that of any of its immediate competitors. These items and the maintenance charges for the various roads in 1906 compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	468,471	$1,203	$780	$1,983
1901–2	471,571	1,192	745	1,937
1902–3	428,116	977	598	1,575
1903–4	451,181	950	711	1,661
1904–5	438,531	804	797	1,601
1905–6	514,767	1,011	922	1,933
Average	462,106	$1,022	$759	$1,781
Burlington	580,024	1,104	1,032	2,136
Northwest	640,983	991	858	1,849
St. Paul	601,003	929	632	1,561
Mo. Pac. (2yrs)	623,807	819	821	1,640
Atchison	577,005	1,123	1,113	2,236

For the year of 1906, the following comparisons are of interest:

Road	Gross Earnings per Mile	Traffic Density	Maintenance		Total
			Way	Eq'p't.	
Burlington......	$8,335	713,568	$1,271	$1,533	$2,804
Northwestern...	8,545	694,630	924	1,215	2,139
St. Paul.........	7,961	670,373	857	804	1,661
Atchison.......	9,253	693,873	1,479	1,271	2,750
Rock Island....	7,098	514,767	1,011	922	1,933

From the above table it will be seen that, traffic density compared, the Rock Island's maintenance charges were higher in 1906 than those of any other road, save the Atchison and the Burlington. With a traffic density one-quarter less than that of the St. Paul, and mileage earnings nearly $900 per mile less, the Rock Island's total maintenance was $270 per mile more. It seems difficult to believe that with one-quarter less the average tonnage to handle, way and equipment maintenance should require more on the Rock Island than on the St. Paul, and this difference of $270 per mile would have meant a difference in the surplus shown by the Rock Island for the year of $1,950,000. If this be added to the $2,100,000 of surplus appropriated for special improvement and equipment fund, this would represent a total of $4,000,000 spent from earnings on the improvement of the road during the year. This compares with $6,000,000 appropriated by the Northwestern, and $4,765,000 for the St. Paul. It will be seen therefore that the total maintenance and improvement charges of the Rock Island for 1906 compare very favorably with those of its most prosperous rivals.

It is to be noted further that while gross earnings in 1906 increased about 16%, maintenance charges increased about 20%, so that the road in that year was relatively better maintained than in 1905. In other words, for the year the road was able to add $2,382,000 to its maintenance charges and set aside in addition, $2,108,000 for the special improvement and equipment funds. As there were no appropriations from earnings in 1905, the additional amount turned back into the road in 1906 was $4,490,000.

Improvements from Earnings.

From the surplus of 1902 the sum of $1,104,544 was appropriated for additions and improvements, and in 1906, $2,108,279.

There were no such special appropriations in 1903 and 1904; in 1903 the sum of $1,018,231 was charged off for depreciation of structures and equipment and deducted from the capital account.

Surplus Earnings.

The surplus earnings of the Railway Co. available for dividends and improvements for six years have been as follows:

Year.	Amount.	Per cent. earned on common stock.
1900-1	$5,097,018	10.1
1901-2	7,220,941	12.0
1902-3	9,572,911	12.7
1903-4	6,028,198	8.0
1904-5	4,733,109	6.3
1905-6	6,785,832	9.0

By the close of the fiscal year of 1905 practically 93% of the railway company's stock, and all of the St. Louis and San Francisco common had been exchanged. The interest charged on the two sets of collateral trust bonds issued by the Railroad amounted to $3,495,113 in 1905 and $3,664,441 in 1906.

As the San Francisco stock paid no dividends it was needful that the Railway company declare a dividend of 5¼% on its stock in order that the Railroad company might meet its fixed charges. Deducting this percentage from the percentage earned on the Railway stock, it will be seen that the company barely earned its fixed charges in 1905. The 4% dividend declared in that year was paid by means of a special dividend of 1.63% from a surplus fund of the railway.

Had all of the surplus earned by the Railway in 1906 been paid out in dividends, the Railroad company's share would have meant an income of about $6,300,000, which, after deducting interest charges on the collateral trust bonds, would have left $2,600,000, or sufficient to have paid the full 4% on the preferred and left a balance of about $600,000, equivalent to about two-thirds of one per cent. on the common. Instead of this, only one per cent. was paid during the year on the preferred and as already noted, $2,108,000, practically all the balance, was appropriated for improvements.

Dividend Record.

In the old days the Rock Island was a big dividend earner. It paid as high as 10% in 1879; in 1880 there was a stock dividend of 100%, but in the face of this the road continued to pay 8% up to 1888, or the equivalent of 16% on the original stock. The dividend was cut down to 3% in 1891, and in 1895 to 2%, so continuing to 1896. In 1898, 4½% was paid, and from 1899 to 1902, the year of the recapitalization, 5%. The Railway company paid 7½% in 1903; 8½% in 1904; 6¼ and 1.63% extra in 1905, and 6¼% in 1906. Three per cent. was paid on the Rock Island Company preferred in 1903, the full 4% in 1904 and 1905, and one per cent. in 1906.

No dividends have been paid on Rock Island common.

The Balance Sheet.

From the current assets shown in the balance sheet, there have been deducted the equipment trusts (two series) of the Rock Island Improvement Company, with the treasury securities already included in the table of capital account above, materials on hand and advances to coal companies, in conformity with the procedure in this book.

These deductions made, the current assets showed.....	$11,256,005
and current liabilities..............................	7,140,201
leaving a working balance of.....................	$4,115,804

In addition to the above there were deferred assets of $1,-163,788, and deferred liabilities amounting to $3,032,532 and open accounts in suspense, $509,364. Adding together these various items, the

Current Assets amounted to........................	$12,419,793
And the Current Liabilities to........................	10,682,097
Leaving a balance of..............................	$1,737,696

The item of cash on hand was $7,148,301 and the balance to credit of Profit and Loss, $17,202,469.

Investment Value.

The stock of the C. R. I. and P. Railway outstanding has received since the reorganization 29.13%, or an average of 7.28%

for the four years. In 1906 the dividend was 6¼%. Were this stock converted it would receive in exchange $100 in 4% collateral trust bonds secured by a deposit of the stock, average price in 1906 about $79; $70 preferred stock, of an average price of $65 per share, equivalent to $45 in the exchange, and $100 Rock Island common, of an average market price of about $26; or securities to an average market value of $150 for each $100 share.

The dividend on this stock must be paid or the Railroad Company, and hence the Rock Island Company, receives no income, and failing this would default the interest on the collateral trust bonds. The amount of surplus at the close of the fiscal year for the railroad company was only $257,286, and for the Rock Island Company, $39,271. As the security on the collateral trust bonds was no better than on the dividend on the Railway stock, and the interest on the bonds only 4%, there was on the prices of 1906 but little temptation to convert the Railway stock.

All the Railroad stock, as already noted, is owned by the Rock Island Company.

The preferred stock of the Rock Island Company is entitled to 4% dividends, non-cumulative up to and including 1909, thereafter at the rate of 5% to 1916, and after that at the rate of 6%. Furthermore the preferred stockholders are entitled to elect a majority of the board of directors, and the Rock Island board controls, of course absolutely, the Railway company. The resumption of dividends on the preferred stock depends entirely on whether the favorable results of 1906 continue to be shown. If they should this stock would tend to sell well up towards the full amount to which a 4% preferred is entitled, on account of the fact that the stock carries control of the system. It is to be noted however, that the railway company's charges, taxes and interest, have tended to increase more rapidly than the earnings, with the result that the surplus shown by the company on its stock was in 1905 only about half of that shown the year of and the year preceding the reorganization.

It follows naturally from this that the prospects for a dividend on the common stock in 1906 were remote, and inasmuch as the stock has no value for purposes of control, it represents nothing but possibilities.

1905 and 1906 were for the Southwest and the territory covered by the Rock Island lines, years of extraordinary prosper-

ity, indicated by the opening of an enormous number of small banks and a great rise in farm values. In 1906 home-seeking excursions on the Rock Island in one day carried 9,000 people. This has all the earmarks of the traditional "boom" which in years heretofore has preceded a drastic setback. Even in the flush year of 1906, fixed charges on the Rock Island consumed 83% of the total net income. It will be seen that this road is not in as favorable a position to meet a possible depression as other roads like the Burlington, the North Western, etc., whose fixed charges consume considerably less than one-half of the available income.

RUTLAND RAILROAD.

The Rutland is mainly a Vermont line, operating a single-track road from Chatham, N. Y., and Bellows Falls, Vt., to the Canadian border and to Ogdensburg on the St. Lawrence River. It represents the reorganization in 1867 of the old Rutland and Burlington R. R., and the absorption of several small roads, including, since then, the Ogdensburg and Lake Champlain road. Under traffic agreements, the passenger trains of the company are run through to Montreal over the Quebec Southern and Canadian Pacific. At the beginning of 1905 the road passed definitely into the control of the New York Central, the latter having purchased a majority of the stock. Part of the old directorate resigned, and New York Central directors were chosen in their stead. It is now officered by New York Central men, and is a part of the New York Central system.

Capitalization.

At the close of 1906 the capital account stood as follows:

Common stock	$199,400
Preferred stock	9,057,600
Total	$9,257,000
Funded debt	12,003,819
Nominal capital	$21,260,819
Rentals cap. at 4%	475,000
Approx. gross capital	$21,735,819
Securities held	1,746,880
Approximate net capital	$19,988,939

Approximate capitalization per mile	$42,711
Miles operated	468
Net earnings on net capital	4.1%
Stock on net capital	46%
Fixed Charges on total net income	69%
Factor of Safety	31%

Considering the earnings, the capitalization is high, and the net earnings for 1906 showed only 4.1% on the estimated net capital.

The stock represents 46% of the net capital.

Fixed charges consumed 69% of the total net income, leaving a Factor of Safety for the securities of the road of only about 31%.

The peculiar feature of the capitalization is that the old common stock has almost all been converted into preferred stock, at the rate of ten shares of common for one of preferred; and this preferred stock is a cumulative 7% stock. As nothing like these dividends have been earned for years, the accumulated dividends amount to rather more than half again as much as the entire capital stock, that is to say, to about 160%. These arrearages could only be paid by a stock or bond issue which would merely further dilute the capitalization.

In ten years the mileage of the road has increased from 135 to 415 miles and in addition to the latter figure, there are 52 miles of road operated under trackage rights. Within the same period the gross earnings have risen from $713,000 to $2,799,209 in 1906. That is to say, the gross earnings have just about increased with the mileage.

Maintenance.

The expenditures on maintenance for six and a half years show as follows:

Year	Traffic Density	Maintenance Way	Maintenance Equipment	Total
1900–1.......	406,730	$632	$520	$1,152
1901–2.......	374,061	634	426	1,060
1902–3.......	377,486	715	566	1,281
1903–4.......	373,084	728	773	1,501
1905*........	428,980	810	703	1,513
1906.........	427,069	966	813	1,779
Average....	397,901	$747	$633	$1,380

*Fiscal year changed to calendar year.

In 1901 new stock was sold to pay off the floating debt and to provide for improvements; $565,000 was credited to a special improvement fund and this, together with $217,000 more has been expended up to 1904. In 1903 all of the surplus was devoted to the same purpose; in 1904 $103,000; and the reports state that $77,000 was expended for improvements and charged to expenses during 1905, and $29,985 in 1906.

The surplus earnings in 1906 amounted to $249,729 as against $290,847 the year before. From this $100,000 is applied annually for the redemption of equipment bonds, leaving a balance available for the dividend in 1906 of $149,729, equal to about the 1½% dividend paid.

Dividend Record.

The road formerly paid dividends as follows:

Year.....	1892-5	1896	1897	1898-9	1900	1901	1902	1903
%........	4	2	1	2	3	4	3	1

In 1903 the dividends were suspended in order that all of the surplus earned might be devoted to improvements on the road, and this was followed through 1904. In 1905 a dividend of 1½% was declared and the same in 1906.

Investment Value.

The preferred stock is entitled to 7% cumulative dividends, and as this has not been earned the common stock can have no other value than for voting purposes. The surplus shown in 1905 and 1906 did not hold out any large prospects for an increase of dividend. The preferred sold down as low as $30 a share in 1904, rising again to $72 a share in 1905. Except for the purpose of ensuring control, the stock is certainly very dear at the latter figure. On the basis of $33 a share, paying a 1½% dividend, it would yield to the investor 4½%, with a mild speculative chance of appreciation. It is a stock that is rather widely distributed, for so small a road, the company reporting over a thousand stockholders in 1905. This for the minority interest, would mean an average of less than $5,000 per shareholder. It is distinctively not the New York Central policy to declare high dividends, and under the control of the latter the policy of utilizing the larger part of the surplus for the improvement of the road will likely be continued.

ST. LOUIS AND SAN FRANCISCO RAILROAD.

The "Frisco," as it is commonly known, is, so far as its present lines run, curiously misnamed, since it does not extend to or towards San Francisco but lies southerly from St. Louis and Kansas City to the gulf, with a line reaching to Birmingham in Alabama.

Since 1903 the Frisco has been a part of the Rock Island system, the Rock Island in that year acquiring almost the entire amount of outstanding common stock, and with it control of the road. In 1906 it operated 5,069 miles, the subsidiary Chicago & Eastern Illinois, and its subsidiary, the Evansville & Terre Haute lines being operated separately. All told, it controlled over 6,000 miles of road, lying in eleven different states.

History.

The present St. Louis & San Francisco Railroad is a successor in 1896 of the *Railway* of the same name. The latter had been organized to build a Pacific line and in the wreck of the old Atlantic & Pacific took over a part of its lines running from St. Louis to Vinita. In 1882 Gould and Huntington obtained control of the road simply with the idea of stopping further construction. They sold out to the Atchison, which took over control in 1890. In the Atchison collapse, the St. Louis & San Francisco itself went into the hands of receivers and was reorganized to form the present company, with 1,282 miles of road. Subsequently, by the lease or purchase of various small lines, the Kansas Midland, the Kansas City, Osceola & Southern, the Central division of the Atlantic & Pacific, etc., the mileage of the company was rapidly enlarged, and in 1901 the Kansas City, Fort Scott & Memphis and the Kansas City, Memphis & Birmingham lines were acquired, which, with various extensions has brought the system up to its present proportions.

In 1905 all of the common and the larger part of the preferred stock of the Chicago & Eastern Illionis was acquired, carrying with it control of the Evansville & Terre Haute and the Evansville & Indianapolis lines.

Ownership.

The executive committee of the Frisco is the same as that of the other associated companies in the Rock Island system and its directorate is very much the same, including in 1906 Wm. H. Moore, James H. Moore, D. G. Reid, chairman, B. F. Yoakum, chairman of the Executive Committee, A. J. Davidson, president, Robert Mather, first vice-president, Francis L. Hine, vice-president of the First National Bank, New York, H. Clay Pierce, president of the Pierce-Waters Oil Co., Wm. K. Bixby, James Campbell, Nathaniel Thayer, Benjamin P. Cheney and C. W. Hillard.

For the $28,904,300 of common stock held by the Rock Island, that company paid per hundred dollar share, $60 in 5% Chicago, Rock Island & Pacific gold bonds, and an equal amount of Rock Island Company common stock. No dividends have ever been paid on the Frisco common stock, and the average price of the stock at the generally high level in the boom year of 1902 was about equal to the amount paid for the stock in gold bonds. The actual value of the Rock Island holdings is indicated in the analysis which follows.

Capitalization.

As of June 30th, 1906, the capital account of the St. Louis & San Francisco, proper, excluding the Chicago & Eastern Illinois, stood as follows:

Common stock	$ 29,000,000
1st Pref	5,000,000
2d Pref	16,000,000
Total stock	$ 50,000,000
Funded debt St. L. & S. F.	113,846,428
Funded debt, K. C. F. S. & M.	37,989,604
Funded debt, Auxiliary lines (net)	16.170,420
Guaranteed stock	13,510,000
Equip. Trusts	7,512,325
Chi. & East Ill. Certificates	27,362,050
Total capital	$266,390,827
Securities held	29,614,410
Approx. net capitalization	$236,776,417

Approx. net capital. per mile..........	$46,710
Average miles operated..............	5,069
Net earnings on net capital...........	4.8%
Stock on net capitalization...........	21%
Fixed charges on total net income.....	82%
Factor of safety......................	18%

It will be seen that the capitalization for a Mississippi Valley line is high. The average of $46,710 compares with $49,790 for the Illinois Central and $39,684 for the Louisville & Nashville; and the mileage earnings of both these roads are about twice that of Frisco. The average capitalization of the Burlington, Chicago & North Western and the St. Paul roads is about $30,000 per mile and the average earnings of these roads is 50% above that of the Frisco.

The fact of high capitalization is further illustrated in the percentage which the net earnings show on the net capital, the Frisco's 4.8%, comparing with 7.9% on the Illinois Central, 8.9% on the Louisville & Nashville.

It will be seen also that the percentage of fixed charges is high—far above the danger point for a Western road. Its 82% compares, for example, with 47% for the Illinois Central, 53% (after very high maintenance charges) for the Louisville and Nashville, and, to go further afield, 33% on the Union Pacific, 29% on the Northern Pacific, etc.

By reference to the maintenance charges it will be seen further that the average maintenance charges of the Frisco are low, and were especially so in 1906, and that, had it been maintained at something like the general level of other prosperous roads in this section, a considerable part of the surplus shown would have been wiped out, so that the actual margin of safety on the underlying securities was really much less than the nominal 18% shown in 1906.

It will likewise be noted that the larger part of this enormous capitalization is in bonds and that a very small per cent. is stock, the two having the rather unusual proportion of four to one.

Equities Owned.

The chief treasury holding was $7,217,800, par value of the common stock of the Chicago & Eastern Illinois, and $6,050,400

of the preferred stock. The $7,200,000 of common stock is carried on the books at a cost of $18,230,237 and the $6,000,000 of preferred at a cost of $9,321,550. These stocks were acquired in 1905, being exchanged for stock trust certificates of an equal par value. These certificates bore interest at the rate of 6% for the preferred and 10% for the common, and were redeemable up to 1942 at the rate of $250 for each share of common and $150 for each share of preferred. Later, the larger part of the common stock trust certificates were exchanged for others of a par value of $1,000, each representing the deposit of four shares of stock, and redeemable at par. The interest rate on these latter certificates is 4%, so that both income and principal were unchanged.

In 1906 the Chicago & Eastern Illinois paid 6% on its preferred stock and 8% on the common, so that on the common stock trust certificates the St. Louis & San Francisco was paying 2% more in interest than it received in income on the stock. Further reference to the anaylsis of the Chicago & Eastern Illinois will show that its maintenance charges were very considerably below those of its competitors, to the extent of from $500 to $900 per mile. Had the road charged itself not more than $500 per mile additional for upkeep, this would have wiped out practically the entire amount available for the common stock dividends, so that, practically speaking, the Frisco paid $250 per share in certificates and is paying 4% interest on this amount, for stock which, on equal maintenance with roads in the same territory, is scarcely earning any dividend at all. Even as it was, the payment of the 8% dividend on the C. E. I. common wiped out practically all the surplus for the year. It follows that the Frisco's equity in these holdings was a debit at least equal to 2% on the par value of the C. E. I. common stock, and actually much more than this if maintenance charges be considered. This was not a healthy situation for a road whose own fixed charges, after rather low maintenance charges, amounted in the tremendous boom year of 1906 to 82%.

In this connection may be noted also the purchase of the Kansas City, Fort Scott & Memphis and the Kansas City, Memphis & Birmingham lines. These roads, now forming a part of the Frisco lines, are carried on the books at a valuation of around $81,000,000, and, actually, nearly $65,000,000 of bonds and guaranteed stocks are outstanding on these two lines, with

a total of 1,200 miles of track. This is equivalent to a book valuation of nearly $70,000 per mile and the equivalent of a bonded debt in excess of $53,000 per mile. This latter is very nearly twice the total stock and bond capitalization of other Mississippi roads like the St. Paul, the North Western or the Burlington, all with very much higher mileage earnings. This is one of the items which help to explain the Frisco's 82% of fixed charges in 1906.

Increase of Capitalization.

Since June 30th, 1900, the amount of the company's stock outstanding has not been increased, while the funded debt was increased from $45,014,225 to $216,390,827. This was a total increase of capital of 180%. At the same time gross earnings rose from $7,983,246 to $32,046,656, or more than 400%. This is a very favorable showing, but if we disregard the $50,000,000 of capital stock which probably represented little investment of actual capital and consider only the increase of funded debt, it will be seen that the latter increased by 470%, or more rapidly than earnings.

Character of Traffic.

Covering so broad a territory, the Frisco has naturally a diversified traffic. Of its total tonnage in 1906 about 20% was farm products, 12% manufactures, nearly 19% lumber, and about 40% products of mines. The average earnings per ton mile are high, amounting to 1.0c. in 1905 and .95c. in 1906.

Stability of Earnings.

The following table exhibits the rapid increase of mileage and earnings in the eleven years under view:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6............	1,163	$6,059,372	$5,210
1896–7............	1,163	5,993,336	5,253
1897–8............	1,221	6,786,468	5,640
1898–9............	1,334	7,226,662	5,417
1899–0............	1,400	7,983,246	5,702
1900–1............	1,687	10,173,697	*6,032
1901–2............	3,252	21,620,882	6,648
1902–3............	3,675	24,289,510	6,609
1903–4............	4,217	26,896,731	6,378
1904–5............	5,030	29,958,240	5,955
1950–6............	5,069	32,046,656	6,322

* Includes Kansas City, Fort Scott & Memphis Railway, etc.

It will be seen that the gross earnings per mile have risen very little within this period and actually were higher in 1903 than in 1906, owing to extensions and the inclusion of new lines.

Maintenance.

Like the gross earnings, the traffic density of the line has in the six years from 1900 remained very nearly at a standstill. It was higher in 1902 than in any subsequent year. The following table exhibits the maintenance charges for the period:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	406,321	$781	$567	$1,348
1901–2.......	503,553	916	680	1,596
1902–3.......	473,359	935	711	1,646
1903–4.......	456,012	743	810	1,553
1904–5.......	397,539	714	701	1,415
1905–6.......	454,969	798	751	1,549
Average....	448,625	$814	$703	$1,517
St. L. S. W...	408,066	1,023	674	1,697
M. K. T......	495,226	1,121	616	1,737
K. C. Sou.....	837,406	961	1,156	2,117
Atchison......	577,005	1,123	1,113	2,236
Rock Island...	462,106	1,022	759	1,787

It will be seen that there has been practically no increase in the expenditures per mile in spite of the well-known increase in the cost of labor and supplies, so that the road could scarcely have been as well maintained in 1906 as in previous years. Moreover, by comparison with other roads in the same section, it will be seen that the Frisco's charges were lower. Its average was more than $250 per mile less than the Rock Island, with about the same traffic density, more than $200 less per mile than the Missouri, Kansas & Texas, and very considerably below the Kansas City Southern or the Atchison, traffic density compared. In 1906 this difference became still more accentuated. In that year the Frisco's charges were $400 per mile below the St. Louis & Southwestern, $350 below the Missouri, Kansas & Texas, about $400 below the Rock Island, and the difference between the Kansas City Southern and the Atchison was still greater. It seems safe to say that on the average the Frisco's charges were about $400 per mile for 1906 lower than other roads of the same character and in much the same territory, and this sum distributed over 5,000 miles of track

would have been equivalent to $2,000,000. This is very near to the entire surplus shown for the year.

Moreover, while other roads have turned back large sums from earnings each year into improvements, no such separate appropriations appear in the reports of the Frisco, although for the fiscal year of 1906 $1,789,393 of surplus earnings was carried to the credit of profit and loss.

Surplus Earnings.

On the basis of the maintenance charges discussed above, the nominal surplus shown for the six years, from 1901, was as follows:

Year	Surplus	Dividends paid on 1st Preferred	Per cent. earned on 2nd Prefer'd	Dividends paid on 2nd Preferred	Average price 2d Preferred
1900–1..	$1,809,856	4	10.	3½	81
1901–2..	2,287,479*	4	13.	4	83
1902–3..	1,474,717	4	7.9	4	78
1903–4..	1,280,356	4	6.7	4	70
1904–5..	1,024,128	4	5.1	4	74
1905–6..	2,309,125	4	13.1	2	68

* Includes Kansas City, Fort Scott & Memphis Railway.

For 1906 the surplus shown was equivalent to the full 4% on both the first and second preferred stocks and to 5.0% on the common stock. Had maintenance charges been higher, this would have been an excellent showing. As it was, the showing was somewhat misleading.

Dividend Record.

The dividends on the stocks, both of the old company and the new since 1881, have compared as follows.

Year.	1st Pfd.	2d. Pfd.
1881-6	7	..
1887	7	2½
1888-9	7	..
1890-6	..	..
1897	2	..
1898	4	1
1898	4	2
1899-0	4	2
1901	4	3½
1902-6	4	4

In 1906 the dividend on the second preferred was passed.

The Balance Sheet.

Included in the current assets of June 30th, 1906, were securities in the treasury, carried at a cost of $849,778 and advances on account of construction of $954,295. Excluding these items and likewise the item of supplies on hand, in pursuance of the policy of this book, the sheet showed:

Current Assets	$7,769,025
Current Liabilities	8,622,591
Leaving a debit balance	$ 853,566

Even adding in the value of securities held in the treasury and the amounts advanced for construction, it will be seen that the company was not well off for working funds and that an issue of bonds or notes was obviously suggested.

The amount of cash on hand amounted to $3,641,537, and the balance to credit of profit and loss was $3,470,978.

Investment Value.

Both the first and second preferred are entitled to a 4% non-cumulative dividend, and both these stocks are redeemable at par at the option of the company. The amount of first preferred is small—only $5,000,000—so that only $200,000 per annum is required for the full dividend on this stock. Nevertheless, the fact that the fixed charges, even after low maintenance, consumed so large a percentage of the total net income (82%), even in the prosperous year of 1906, tended very seriously to depress the value of this stock, and in the slump of March, 1907, it sold at $59 per share. This compared with a top price of $72 per share in 1906 and $90 per share in 1902.

The amount of second preferred is more than three times that of the first. The passing of the dividend in 1906 tended to still further depress the price of this stock, and it fell to $34 per share in March, 1907. This compared with a high point of $51 in 1906 and $80 per share in 1902.

Nominally, at least, the full 4% on the second preferred, as well as the first, was amply earned in 1906, and the passing of the dividend under the circumstances—that is, the company's need of working capital, was rather to the credit of the management than otherwise. But if in such a year of prosperity as 1906 it was deemed unwise to pay a dividend, it was not very clear that a resumption of the dividend was in prospect.

The nominal surplus for the six years, on the basis of the rather low maintenance charges noted, was sufficient to leave about 2% per annum for the common stock. On what ground the Rock Island was justified in paying $17,342,580 in 5% gold bonds, and an equal amount of Rock Island Company stock, or $120 per share, nominally, for stock then earning little or nothing, and earning little more since, is not very clear, especially as the interest on the bonds brought the Rock Island's fixed charges up to 83% in the phenomenally prosperous year of 1906. This purchase takes $867,-000 per year from the Rock Island's treasury, with scant prospects of any return for some years. In the four years, the sellers of this stock received over $3,000,000 in interest, where they otherwise would have received nothing.

As for the underlying securities, it is obvious from the foregoing that the margin of safety on these was not large, and this fact tended greatly to depress their price.

ST. LOUIS SOUTHWESTERN RAILWAY

The St. Louis Southwestern, otherwise known as the "Cotton Belt Route," is one of the Gould lines that is not, however, an integral part of what is known as the Gould system. Its affiliations with the other Gould roads are naturally close, but it does not belong to the more immediate group of lines of which George Gould is the directing head.

The road for many years belonged in the class that begins not much of anywhere, and pursued a devious path to a similar destination. Its lines extended from southern Missouri across Arkansas into northeastern Texas. Of late years, however, the position of the road has been very materially improved, and in 1905 saw the completion of the new bridge, in which this company has a one-fifth proprietory interest, across the Mississippi—between Gray's Point, Missouri, and Thebes, Illinois. This gives the road access to St. Louis, through arrangements already made for the joint use of the Illinios division of the Iron Mountain road, for freight and passenger trains between Thebes and St. Louis. A short bit of road gives the line entrance into Memphis, and other traffic arrangements have carried its terminals to Sherman, Fort Worth, Dallas and other prosperous towns in Texas, and the line will eventually be carried to a Gulf terminal.

All this is very strikingly different from the line which from 1885 to 1890 was twice sold under foreclosure. The present road represents a reorganization in 1890 of the St. Louis, Arkansas and Texas. Three distinct companies were formed at the time: the present St. Louis Southwestern, the St. Louis Southwestern Railway Company of Texas, and the Tyler and Southeastern Railway Company. In 1899 the latter road was absorbed by the Texas company, and the latter exsts as a separate organization merely to conform to Texas railway laws. The purchase of several small lines materially increased the mileage and range of the road, bringing the total operated mileage in 1906 up to 1,452 miles. To this was added, in the fall of 1906, the Eastern Texas Railroad, a short line on which originates a heavy lumber traffic.

Ownership.

The road has long been one of the Gould posessions, but its history within the last ten years has been one of steady upbuilding and extension, with no increase of capital stock, and a minimum issue of new securities.

The make up of the board of directors is rather different from that of the other Gould roads, including Edwin Gould, president, and Howard Gould; F. H. Britton, vice-president and general manager, Winslow S. Pierce, general counsel, E. T. Jeffrey, president of the Denver and Rio Grande, R. M. Gallaway, president of the Merchants' National Bank, New York, William H. Taylor, first vice-president of the Bowling Green Trust Company of which Edwin Gould is the president; Murray Carleton and Tom Randolph, of St. Louis.

The make up of the board of the St. Louis Southwestern Railway Company of Texas is again considerably different from that of the St. Louis Southwestern, although it is merely a formal organization. F. H. Britton is president and out of the nine directors, five are residents of Texas.

Capitalization.

The capital account on June 30th, 1906, stood as follows:

Common stock	$16,500,000
Preferred stock	20,000,000
Income bonds (4%)	3,260,500
Total stock	$39,760,500
Funded debt (Inc. Income bonds)	38,972,750
Total capital	$78,733,250
Securities held	3,444,362
Approx. net capital	$75,288,888

Approx. net capitalization per mile	$51,910
Average miles operated	1,452
Net earnings on total capitalization	3.0%
Stock on net capitalization	50%
Fixed charges on net income	76%
Factor of Safety	24%

Under stock has been included $3,260,500 of non-cumulative, 4% second mortgage income bond certificates, the remainder of the original issue of these bonds having been exchanged for first consolidated 4% mortgage. These bonds have, however, no voting rights.

The amount paid in rentals is very small and has been neglected in the preceding estimate. It will be seen, that, as is characteristic of the Gould roads generally, the line is very heavily capitalized, the average per mile amounting to $51,910 on a road with net earnings of only a little over $6,000 per mile. This heavy capitalization is further reflected in the fact that in 1906 the net earnings represented only 3% on the net capitalization. Half of this capitalization, however, is represented by securities on which no dividends are paid.

Nevertheless, even in the prosperous year of 1906, the interest on the Fixed Debt, etc. (not including income bonds) consumed 76% of the total net income, leaving a Factor of Safety for the underlying securities of only 24%. This, for a road of the character of the St. Louis Southwestern is very low.

The chief item of the securities held is $1,444,000 of the company's own bonds, and the balance is mainly made up of small amounts of the stocks and bonds of subsidiary lines, the bridge company, etc. These securities represent no equities of value.

The capital stock has not been increased since the reorganization of the road, and in five years the funded debt increased only a few millions, while the gross earnings have increased nearly 25%. This reflects the conservative and constructive policy which characterises the present management of the road.

Character of Traffic.

Farm products make up 20% of the tonnage, of which cotton is only 3%. The mine products are small. Lumber is heavy, this with forest products amounting to over one half of the total tonnage. Manufactures and miscellaneous make up the balance. An even two-thirds of the traffic of the road originates on its own lines. The revenue from passenger business amounts to less than 20% of the gross receipts.

Stability of Earnings.

The following table shows the steady growth in the earnings of the road, with no very great increase of capitalization:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	1,223	$4,743,546	$3,878
1897–8	1,223	5,279,332	4,316
1898–9	1,250	5,862,338	4,690
1899–0	1,258	5,908,284	4,695
1900–1	1,275	7,387,174	5,791
1901–2	1,293	7,267,259	5,620
1902–3	1,291	7,278,574	5,635
1903–4	1,303	7,649,485	5,868
1904–5	1,418	8,860,231	6,248
1905–6	1,452	8,989,564	6,192

It will be seen that the earnings per mile within these ten years have increased 66%, while the mileage has increased only about 15%. This increase has been steady, and there is every indication that it will continue.

In the ten years under view the average revenue per ton-mile has declined very slightly. It was 1.13c. in 1897 and 1.07c. in 1905. For the year of 1906 there was a slight drop, to .98c. It will be seen that the average rate is high.

Maintenance.

From the following table it will be seen that while the traffic density has increased only about 30%, in the six years under view, the appropriations for maintenance have increased nearly 50%.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	367,571	$847	$527	$1,374
1901–2	398,254	1,050	634	1,684
1902–3	388,865	1,103	641	1,744
1903–4	390,010	1,073	748	1,821
1904–5	432,980	933	679	1,612
1905–6	470,720	1,136	812	1,948
Average	408,066	$1,023	$674	$1,697
M. K. & T.	495,226	1,121	616	1,737
St. L. & S. F.	448,625	814	703	1,517
K. C. Sou.	837,406	961	1,156	2,117
Atchison	577,005	1,123	1,113	2,236

Especially for 1906, these maintenance charges were undoubtedly high, and reveal the policy of the management to build up the road as far as possible from earnings. Probably in the maintenance of way alone there was an excess charge amounting to more than $200,000 for the year.

The equipment betterments were sufficient to allow $2,040 per locomotive, $635 per passenger car; and $50 per freight car. This,

on a road of the traffic density of the St. Louis Southwestern was liberal and undoubtedly adequate.

From the surplus earnings the following appropriations have been made within five years:

1900-1	General improvements...........	$1,490,000
	Equipment payments............	258,825
1901-2	" "	385,413
1902-3	General improvements...........	544,765

These amounts are small and have been superseded in later years by more liberal maintenance charges.

Surplus Earnings.

The surplus shown after Fixed Charges but before the payment of the interest on the income bonds, for the six years, has been as follows:

Year	Surplus	Interest Paid on Income Bonds	Per cent. Earned on Preferred	Average Price (Calendar Year)
1900–1...............	$1,813,799	4	7	33
1901–2...............	1,113,630	4	4.9	55
1902–3...............	694,834	4	2.8	67
1903–4...............	668,828	4	2.6	45
1904–5...............	1,174,242	4	5.2	43
1905–6...............	697,054	4	2.8	60

Since 1901 the deductions for the interest on the income bonds has amounted to only about $130,000 per annum, but no dividends have been paid on the stock, and the surplus has been turned back into the improvement of the road.

The Balance Sheet.

At the close of the fiscal year of 1906 there were:

Current assets and supplies on hand......	$4,110,855
Current liabilities (including reserve fund)	2,630,201
Leaving a working balance of......	$1,480,654

The item of cash was $853,382 and the balance to the credit of Profit and Loss was $3,731,932.

These statements were for the entire system.

Investment Value.

In his report to the president in 1906, Mr. Britton, the vice-president and general manager, observes that "it has been the policy of the management to induce and assist immigration into the territory contributory to the rails of the company, and to encourage the location of new industries along the line. The results of this policy have been gratifying; thousands of acres of wild lands have been brought into cultivation and large numbers of the better class of farmers from the older states have located along the line, opening up and developing new sections which have heretofore been untouched. This has been especially true of what is known as Saint Francis basin where by systematic drainage, thousands of acres of land have been reclaimed and cultivated. The demand for lumber also increased rapidly."

It is evident from the analysis of earnings and maintenance that the road is under conservative management, and that its securities have been steadily growing in value. The small items of surplus shown, especially in 1906, are the result of the liberal maintenance and it would not have been difficult for the management to have skimped these sums in order to pay at least some dividends on the preferred stock.

If the earnings of the road continue to increase in the same favorable fashion, it should not be long before the preferred stock is receiving a dividend. The amount of this stock relative to the common is large, and the full 5% on this stock would consume $1,000,000 annually. If there be no necessity for a still further increase in the maintenance charges, and earnings keep up, at least 2% might be paid upon this stock conservatively.

Its prices have reflected this possibility. It sold as low as $22 per share in 1900, and under the favorable showing of 1902 it was run up to $80 per share. It declined to $24 in 1903, rising again to $66 in 1905. The average price in 1906 was around $55 per share.

A stock with these figures, and the possibilities indicated, does not present a particularly attractive investment. On a 2% basis it would scarcely be worth more than $50 per share, since in any event it is limited to 5%. If, however, a considerable recession in prices should come, at from $30 to $35 per share it would probably show a fair return to the investor who was content to put it by in his strong box.

As to the common it is difficult to see that it has any value at the present time, except as a plaything for the stock market. It sold down below $10 per share in 1904, declining to that from $39 per share in 1902. It rose again to $27 in 1905.

It belongs to that class of non-dividend paying stocks which fluctuate widely in value, and if purchased at a nominal price, like $10 or $12 a share, is likely to show its holders a handsome profit on the investment, when the market turns upward. It is probable that the Gould interests hold sufficient quantity of the stock so that control of the road could not be picked up in the market, and if this be true, the stock has no other value than that which would be justified by its earnings and prospects.

SEABOARD AIR LINE RAILWAY.

The Seaboard Air Line is the smallest of the three important railway systems which practically dominate the transportation of the eastern southern states. It operates directly a total of about 2,600 miles extending from Richmond and Norfolk on the north through Savannah to Tampa on the Gulf, with important cross lines reaching from Wilmington on the coast through Atlanta to Birmingham and Bessemer, and another from Savannah through Montgomery, Ala. It also owns the Atlanta and Birmingham Air Line, which, with 17 miles of trackage rights, operates 228 miles, and the Florida West Shore, operating 69 miles; and in 1906, it acquired control of the Macon, Dublin and Savannah.

The present company was organized in 1900 as successor to the Richmond, Petersburg and Carolina Railroad, owning a line from Richmond, Va., to Norlina, N. C., and representing a consolidation of the old Seaboard Air Line system with the Georgia and Alabama, the Florida Central and Peninsular, and the Atlantic, Suwanee and Gulf. The original Seaboard Air Line was in its turn a consolidation of the old Seaboard and Roanoke, opened in 1835, and re-built in 1851, with several smaller roads. The Seaboard practically parallels the Atlantic Coast Line throughout its main length, and runs through a rich cotton district and by its extensions reaches into the manufacturing districts of northern Alabama.

The consolidation was carried out principally by John L. Williams and Sons, of Richmond, Va., and Middendorf, Oliver and Co., of Baltimore, at that time the principal owners of the Georgia and Alabama railway. Subsequent to this the Williams interests lost control of the road, and considerable changes were made in the directorate and management.

In 1906 the board of directors consisted of Thomas F. Ryan, vice-president of the Morton Trust Company of New York, also a director in the Hocking Valley, the Pere Marquette and several industrial enterprises; James A. Blair, of Blair and Company, bankers, New York; H. Rieman Duval, also a director in the Atchison; S. Davies Warfield, of Baltimore, also a director in the Missouri

Pacific; Y. Van den Berg, formerly vice-president of the Louisville and Nashville, now associated with Ladenburg, Thalmann and Co., bankers, New York; Ernst Thalmann, of the same firm; Norman B. Ream, also a director in the Baltimore and Ohio, the Erie and other roads; H. Clay Pierce, of the Waters-Pierce Oil Company, now a part of Standard Oil; B. F. Yoakum, chairman of the board of the Rock Island system, also a director in the St. Louis, Memphis and Southeastern, which meets the lines of the Seaboard at Birmingham; T. Jefferson Coolidge, Jr.; C. Sidney Shepard, of New Haven; George W. Watts, Durham, N. C.; James H. Dooley, Richmond, Va., Townsend Scott, Baltimore; and N. S. Meldrum, New York, vice-president.

The executive committee of 1906 consisted of James A. Blair, Thomas F. Ryan, S. Davies Warfield, Thomas Jefferson Coolidge, Jr., B. F. Yoakum, Ernst Thalmann, and C. E. Shepard.

In a circular issued in 1900 Messrs. Williams and Sons stated that the stock was distributed among 1,100 stockholders mainly of southern residence.

The larger part of the stock of the Seaboard has been acquired by the Seaboard Company, a holding organization incorporated in 1905 to provide for the liquidation of the floating debt of the railway, for improvements, extensions, etc.

Seaboard Company.

The authorized capital of the holding company is $36,000,000 of common stock, $18,000,000 each of first and second preferred. At the close of 1906 the following amounts of this stock had been issued:

Common	$28,545,755
First preferred	6,360,600
Second preferred	15,993,650

At the close of 1906 about 82½% of the stock of the railway company had been exchanged for stock of the holding company, the dissenting stock of about $10,000,000 par value being held by a minority interest represented by Middendorf, Oliver & Co., and John L. Williams & Sons. The basis of the exchange was as follows:

Each holder of one share of preferred stock of the railway company upon payment of $12.50 cash received $12.50 in first preferred, $75 in second preferred and $12.50 in common stock.

For each share of common stock upon payment of $12.50 cash, the holder received $12.50 of first preferred and $87.50 in common.

Those subscribing to the new stock and making no payment in cash received $75 of second preferred of the new company for each share of the old preferred and holders of the common received $75 in the common stock of the new company.

Of the cash capital provided by the formation of the holding company $4,440,900 up to June 30th, 1906, had been loaned to the Railway company and stood upon the books of the latter as notes payable.

Capitalization.

(Seaboard Railway.)

Excluding the small amount of capital stock held in the treasury, a leasehold interest in the Wilmington Railway bridge, carried at $108,500, and the $5,760,000 of Seaboard Air Line Atlanta-Birmingham first mortgage bonds (against which an equal amount of first mortgage bonds of the Atlanta & Birmingham Air Line bonds were held in the treasury), the capitalization of the system on June 30th, 1906, stood as follows:

Common stock (net)	$37,009,000
Preferred stock (net)	23,895,000
Total stock	$60,904,000
Funded debt	57,840,000
Equipment trust	5,440,068
Notes	4,440,900
Total capital	$128,624,968
Securities held	4,724,687
Approx. net capitalization	$123,900,281
Approx. net capital. per mile	$47,453
Average miles operated	2,611
Net earnings on net capitalization	3.7%
Stock on net capitalization	49%
Fixed charges on total net income	78%
Factor of safety	22%

The rentals paid by the Seaboard were small and about balanced by the rentals received. The amount of securities held was

likewise small and subtracted but little from the gross capitalization of the road.

It will be seen that for a road earning less than $6,000 a mile, the capitalization of the Seaboard system, like that of the Southern Railway, is high; its $47,453 per mile compares with $49,223 for the Southern Railway; with $28,403 for the Atlantic Coast, and $39,684 for the Louisville and Nashville, which latter, for example, earns $10,400 per mile gross.

The gross earnings of the Southern Railway in 1906 amounted to $7,274 per mile as against $5,709 for the Seaboard, showing that the capitalization of the Seaboard, as compared with gross earnings, is higher even than that of the Southern. This fact is further evidenced by the comparison of the net earnings with the net capitalization, the net earnings of the Seaboard showing in 1906 3.7%, as compared with 4.2% for the Southern Railway, 7.1% for the Atlantic Coast, and 8.9% for the Louisville and Nashville.

The capitalization of the Seaboard, like the Southern, is, earnings compared, at least twice as high as that of standard western roads, like the St. Paul, the Burlington, and the North Western. These latter roads, with higher gross earnings, are capitalized at an average of about $30,000 per mile.

It will be seen from the table given above that the stock of the road represents one-half of the net capitalization and on this stock no dividends are being paid.

The bonded debt of the road as compared with its earnings is high; and Fixed Charges in the prosperous year of 1906 consumed 78% of the total net income, leaving a Factor of Safety for the underlying securities of only 22%. This is very low and compares with a similar factor of safety of from 50% to 60% on such roads as the Pennsylvania, the Baltimore and Ohio and other standard lines. This is one of the handicaps which militate greatly against the development of the road.

Equities Owned.

The Seaboard Air Line has a one-sixth interest in the joint Richmond-Washington Company, and has a traffic arrangement with the Pennsylvania by which it maintains through car service to the South. It also owns the Baltimore Steam Packet Company, unbonded, and has a substantial interest in the Old Dominion Steamship Company. The surplus earnings of the water lines in 1906 were $139,457.

As of June 30th, 1906, the Seaboard held in its treasury $5,-760,000 first mortgage bonds of the Atlanta and Birmingham Railway Company, held as security for an equal amount of bonds issued by the Seaboard. This amount was devoted to the construction of the Atlanta and Birmingham line.

In addition to the bonds so issued on the same date there was due to the Seaboard as advances to the Atlanta and Birmingham line, $4,063,830, partly secured by second mortgage.

The Atlanta and Birmingham in 1906 barely paid its operating expenses and taxes, so that the $230,416 interest on the first mortgage bonds had to be met by the Seaboard, but this amount was not charged to Seaboard income but carried in open account with the Atlanta and Birmingham line as additional indebtedness. The Seaboard also guarantees the principal and interest of the Florida and West Shore, which showed a deficit for the year over all charges of $9,500, which brought up the amount due to the Seaboard to $84,286.

Altogether the amount of outside holdings of the company is small, and its equities in any of these holdings would add but little to the income of the road.

Increase of Capitalization.

From the close of the first full year of the consolidated company's operations to 1906 the increase of capitalization and earnings was as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total	Gross Earnings
1901...	$29,000,000	$19,400,000	$54,948,912	$102,989,912	$10,426,279
1906...	37,009,000	23,895,000	67,720,968	128,624,968	15,116,947

Increase over 5 years: Total capital, 25% ; gross earnings, 45%.

It will be seen that by adding one-quarter of its total capital obligations, the road was able to increase its gross earnings by nearly one-half. This is an admirable showing and had the road been less heavily handicapped with debt at the beginning, it would now be in excellent shape.

In January, 1907, a new issue was authorized of $18,000,000 of 30-year 5% bonds to be secured by a mortgage and collateral trust agreements covering (subject to existing liens) all the railway property and such securities as may be deemed advisable. Of

these bonds $7,308,000 were offered to the stockholders pro rata at 90, to provide for debt incurred for improvements and extensions.

In May of 1907, $1,300,000 equipment trust notes were sold.

Character of Traffic.

Products of agriculture made up 15% of the total tonnage for 1906, of which cotton contributed 3½%, products of mines 13%, forest products 35%, and manufactures and miscellaneous 35%. The largest single item in the traffic of the road was lumber and staves which amounted to 23%, or nearly one-quarter. Passenger earnings contributed 21% of the gross earnings of the road.

Stability of Earnings.

The following figures taken from Mr. Mundy's "Earning Power of Railroads," show the mileage and earnings of the system both prior to its consolidation and subsequently. Previous to July 1st, 1900, the Seaboard Air Line comprised 961 miles, the Florida Central and Peninsular 940 miles, and the Georgia and Alabama 458 miles.

Year	Miles Operated	Gross Earnings	Per Mile
1895	2,185	$ 5,585,832	$2,566
1896	2,225	6,034,083	2,712
1897	2,293	6,901,286	3,009
1898	2,349	7,458,274	3,175
1899	2,359	8,559,532	3,628
1900	2,359	8,980,322	3,806
1900-1	2,592	10,426,279	4,022
1901-2	2,604	11,068,478	4,250
1902-3	2,607	12,156,928	4,663
1903-4	2,611	12,750,271	4,883
1904-5	2,611	13,619,274	5,216
1905-6	2,611	15,116,947	5,790

It will be seen from the above that in the six years prior to the consolidation, earnings per mile had increased from $2,566 to $3,806, or more than 50%. From the first year of the consolidation (1901) the earnings increased from $4,022 per mile to $5,790 per mile in 1906, an increase of 42% in five years. The increase in mileage earnings then, since the consolidation, was slightly less rapid than previously. The increase in mileage earnings for the twelve years under view was over $3,200 per mile or about 125%. This is an average increase of 10% per year.

It is to be noted that the average rate per ton per mile received by the Seaboard is high, amounting in 1905 to 1.18c. and in 1906

to 1.12c., which compares with 1.13c. for the Atlantic Coast Line, .93c. for the Southern, and .47c. for the Norfolk and Western. This is due in part to the character of the freight carried and in part to the fact that in its special territory the Seaboard has little competition.

Maintenance.

The traffic density and maintenance items for the six years of the operations of the consolidated company were as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	236,465	$538	$476	$1,014
1901–2.......	284,285	492	418	900
1902–3.......	296,061	569	556	1,125
1903–4.......	296,630	642	676	1,318
1904–5.......	311,586	693	663	1,356
1905–6.......	368,269	714	746	1,460
Average....	311,366	$620	$611	$1,231
Atl. Coast....	259,769	709	556	1,265
So. Ry.......	435,987	860	964	1,842
L. & N.......	929,594	1,490	1,537	3,027
Cent. of Ga...	303,245	890	722	1,612

It will be seen that in the period under view traffic density increased about 50% and the average maintenance of way per mile about 35%. The increase of equipment maintenance was heavier, rising from $476 per mile in 1901 to $746 in 1906, an increase of about 60%. The increase of total maintenance per mile was about 40% or about the same as the increase of traffic density, so that the road should have been rather better maintained in 1906 than in 1901. Compared with the Southern Railway it will be seen that with an average traffic density for the six years one-quarter less than that of the Southern, the average expenditures for maintenance of all sorts were one-third less. Compared with the Atlantic Coast Line, the average maintenance for six years was slightly less, on a somewhat higher average density.

It seems fairly obvious from the above comparisons that no earnings were concealed in maintenance.

Surplus Earnings.

The nominal surplus shown after all charges since the consolidation were as follows:

Year	Surplus	Per cent. Earned on Preferred
1900–1	$ 329,659	1.6
1901–2	820,254	4.2
1902–3	832,481	4.2
1903–4	382,825	1.6
1904–5	1,171,908	4.9
1905–6	1,131,578	4.7

It is to be noted that the surplus shown in 1906 did not include the loss from the operations of the Atlanta and Birmingham line nor of the Florida and West Shore. The combined loss on these two roads for the year was $238,953. Deducting this amount from the nominal surplus shown left an actual surplus for the year of only $892,624. This, after an increase during the year of more than 10% in the gross earnings was a disappointing showing, and reference to the table of maintenance charges will show that it was not due to a heavy increase in these items.

Operating expenses for the year rose from 66.7% in 1905 to 69.5% in 1906. Of the $1,421,000 added operating expenses for the year, $1,127,000 was due to an increased cost of transportation. This resulted from an increase in wages, in the cost of fuel, and loss by wreckage. The amounts paid for car mileage, which may be assumed to be the rent of foreign equipment, was high, and higher even than the previous year, amounting to $253,313 in 1906, and this was in the face of the receipt of 1,100 new cars of large capacity during the year.

The operations of the Birmingham and Alabama line were rather astonishing. The gross earnings for 1906 amounted to $836,533, or average earnings of $3,230 per mile. The operating expenses for the year, taxes and rentals included, were 100%. No explanation for this curious result is given by the report. Had the Birmingham line been operated on the same basis as the rest of the system, about 70%, it would have shown a surplus of about $250,000, or sufficient to pay the full interest on its first mortgage bonds and relieve the company of the deficit of the same sum which was shown for the year. This was an item on which the stockholders of the road would doubtless have enjoyed more light.

The Balance Sheet.

In the balance sheet at the close of the fiscal year of July 30, 1906, there was an item of notes receivable to the amount of $1,075,-

996. Similarly there were in the items of current liabilities notes payable to the amount of $4,409,900, which latter amount has already been included in the capital indebtedness of the road. Including the notes payable in the current assets, but excluding the same item from the current liabilities,

Current assets showed..................	$3,992,342
and Current liabilities...................	3,735,436
leaving an apparent working balance of.........	$256,906

The report further shows items of "Provisional Accounts" (liabilities) to the amount of $3,612,150 additional. The larger part of this was the amount due to proprietary companies of $2,171,442. Against these items were deferred assets amounting to $4,609,788, of which the larger part was $4,063,830 advanced to the Atlanta and Birmingham Air Line.

Should the operations of the Birmingham line be successful, and it ought to be able to earn not only the interest on its first mortgage bonds, but its debt to the Seaboard Air Line likewise, the liabilities of the company would not appear so formidable. But all this complicated arrangement of accounts was offered to the shareholders without a word of explanation of any sort.

The various items of cash amounted to $1,604,117. The working balance shown even under the favorable arrangement given above was very small, and so far as the report indicates, the company did not seem very well situated for the conduct of its current affairs.

Investment Value.

The affairs of the Seaboard in 1907 were in such complicated shape, and the amount of information supplied by its reports and otherwise, so limited as to make it scarcely worth while to attempt to estimate the value of its securities.

For the first nine months of the fiscal year of 1906-7 gross earnings showed an increase of a little over 8%, but operating expenses were so heavy that the net had declined by more than $1,-000,000 from the previous year. At the same time fixed charges had considerably increased, so that in lieu of a surplus of nearly $1,000,000 shown during the same period of the previous year, the operations of the company showed a deficit of nearly $350,000. The same heavy rise in operating expenses had been shown by the Southern Railway, and in a lesser degree by the Atlantic Coast Line.

It was evident from the above that unless a radical change took place the company would be forced to a reorganization, in which case the outstanding stock of the railway would be of little value. In circulars issued by John Skelton Williams of Richmond it was charged that the road had been "shamefully mismanaged" and that it was the purpose of the Blair-Ryan management to freeze out the minority holders.

Seaboard Company.

The first preferred stock of the Seaboard Company is entitled to 5% dividends, and is preferred both as to principal and dividends, and after July 1st, 1910, the dividend is cumulative, but the stock is redeemable at the option of the company after July 1st, 1908, and is convertible at the option of the holder into second preferred stock at par.

The second preferred is entitled to 6% non-cumulative dividends and is redeemable at the option of the company at 110 after July 1st, 1908, providing the first preferred shall have been redeemed or converted.

All classes of stock have full voting power.

On the outstanding preferred stock, $6,360,600, 2½% dividends were paid in July, 1906, and in January, 1907.

It will be seen from the above that as the railway company earned a deficit for the fiscal year of 1906-7, the only income derivable by the holding company was from interest on bonds and loans, and that the earnings of the railway were insufficient to meet these charges in full.

SOUTHERN PACIFIC COMPANY.

The Southern Pacific Company operates the longest line of rails covered by any single company in the world, though the difference between it and the Atchison or Canadian Pacific is not great, and its gross income is second only to that of the Pennsylvania. This income for 1906, including receipts from the land department, exceeded $110,000,000. Nevertheless, it is to all intents a subsidiary part of the Union Pacific-Southern Pacific system. This is true, not merely with regard to the Union Pacific's ownership of what amounts to practical control, but as to actual management. Its chief operating officers are the same as those of the Union Pacific, and in two of the sectional divisions into which the combined system is divided for operating purposes, parts of both the two companies' rails are included. In other words, for operating purposes the two companies are practically a unit.

The lines of the company extend from San Francisco northward to Portland, in Oregon, eastward to Ogden, in Utah, and southward through Southern California, Arizona, New Mexico and Texas to New Orleans. In 1906 the system embraced an average of 9,191 miles.

In addition to this, the Southern Pacific operates an important line of steamships from the Gulf of Mexico up the Atlantic coast, and owns a majority interest in the Pacific Mail Steamship Company, operating between San Francisco, Panama and the Orient. The company has also considerable interest in the Californian oil fields and electric roads in that State.

The Southern Pacific Co. owns no track in fee, but partly through leases, partly through ownership of stock, controls the great system of rail and steamship lines, whose earnings are included in its report.

History.

The beginning of the present Southern Pacific was the Central Pacific, and the collateral Western Pacific, chartered by

act of Congress in 1862, simultaneously with the Union Pacific. The Western Pacific was to build from Oakland, opposite San Francisco to Sacramento, and the Central Pacific eastward from there to join the lines of the Union Pacific wherever they should meet.

It is said that the builders of the Central Pacific, Messrs. Crocker, Huntington and Stanford, began with less than a quarter of a million capital between them upon a work whose estimated cost was $58,000,000. They obtained loans from Sacramento and Placer counties in California, and with this built enough road to begin to draw on the heavy subsidies offered by the National Government, which were the same as those of the Union Pacific. Shortly after, the Central and Western Pacific were amalgamated and several smaller lines radiating from San Francisco were later absorbed. It then leased the Southern Pacific with 1,229 miles of track and thus gained control of practically the entire transportation system of California. From 1873 to 1883 the Central Pacific was prosperous and for a time paid good dividends. In 1884, however, the Southern Pacific Company was formed as a Kentucky corporation, taking over by lease the Southern Pacific, the Central Pacific and their subsidiary lines. By this means the road escaped the direct control of California law and likewise enabled its ingenious inventors, so it was charged, to transfer the profits of the Central Pacific to the new Southern Pacific; that is to say, to themselves.

The road eventually came under practically the single domination of Mr. Huntington, who designed it to form a part, with the Chesapeake & Ohio and intermediary lines, of a complete transcontinental system and for a time it was so operated. This was the first true transcontinental road in the United States.

In 1901 Mr. Huntington died, and his and allied interests in the road were sold to the Union Pacific under Mr. Harriman's domination, and since that time it has been a Harriman road.

The absorption in 1898 of the Houston & Texas Central and allied lines gave the road a large mileage in Texas and made it the most important single road in that State.

The Southern Pacific Company was at the time of its organization enormously over-capitalized, but large sums have been taken annually from its earnings for improvements, both before the Harriman regime and especially since, so that the Company has gradually "grown up" to its capitalization, and

its net earnings now represent a very respectable percentage on the total of stocks and bonds. No dividends were ever paid on the common stock until 1906.

Ownership.

As of June 30th, 1906, the Union Pacific owned $90,000,000 par value out of about $198,000,000 of the common stock, and $18,000,000 par value out of about $39,000,000, par value of the preferred. While this $108,000,000 of Union Pacific stock does not represent a majority interest, it amounts practically to that, and it is not improbable that interests friendly to the Union Pacific own more than enough to make the control absolute.

The number of shareholders is comparatively small, the road reporting only 2,424 stockholders in 1905, as against 17,523 for the Atchison and 14,256 for the Union Pacific.

The directorate of 1906 included E. H. Harriman, president; Wm. D. Cornish, vice-president; Robert S. Lovett, James Stillman, David Willcox, president of the Delaware & Hudson; Marvin Hughitt, president of the North Western, all directors in the Union Pacific; Maxwell Evarts, attorney of both roads, and W. V. S. Thorne, director of purchases, both directors in the Oregon Shortline; A. K. Van Deventer, assistant treasurer, and Henry W. De Forest, closely associated with Mr. Harriman. These make up a considerable majority of the board. The other directors were Robert Goelet, of Newport, R. I.; H. E. Huntington, very largely interested in local traction matters in Southern California; Clarence H. Mackay, of New York, the head of the Mackay Companies, the Postal Telegraph, etc.; D. O. Mills and Ogden Mills, New York.

The executive committee of 1906 was made up of Messrs. Harriman, De Forest, Stillman, Lovett and Willcox; three of these are also members of the executive committee of the Union Pacific.

The affiliations of the Southern Pacific are naturally those of the Harriman interests.

Capitalization.

The Southern Pacific Company, whose shares are dealt in on the exchanges, is a holding company—a Kentucky corporation which owns the entire capital stock of the Southern Pacific, Central Pacific and the numerous other roads, all grouped to-

gether as the "Proprietary Companies." The capitalization of the consolidated system, June 30, 1906, stood as follows:

Common stock	$197,849,258
Preferred stock	39,569,840
Total stock	$237,419,098
Funded Debt (net)	354,737,321
Total capital	$592,156,419
Approximate capital per mile	$64,426
Average miles operated	9,191
Net earnings on total capital	6.6%
Stock on total capitalization	40%
Fixed charges on total net income	49%
Factor of safety	51%

The funded debt shown above is the total amount of the outstanding securities of the system, less the amount held in sinking funds, $13,936,000, and about two and one-half millions dollars of stocks and bonds held in the treasury. This amount includes the item of $17,643,814, the balance of the notes issued to the United States Government, in settlement of the Central Pacific's indebtedness. The item of securities held is passed by, owing to the difficulty of determining the value of the securities held. This item is further discussed under the subject of "Equities Owned." It might reduce the gross capitalization of the company by a matter of $25,000,000, more or less, that is to say, not much to exceed 5%. It follows that the figures as to capitalization per mile is the gross capitalization, but this would not differ very greatly from the amount if the value of outside securities had been deducted.

The figure of $64,426, gross capital per mile, compares with a similar estimate of $58,887, net capital for the Atchison; $59,512 net capital for the Northern Pacific; $42,362 for the Great Northern, and $28,613 for the Canadian Pacific. Reference to the analysis will show that the nominal net capital per mile of the Union Pacific is $73,992. But if the market value of its securities be deducted, its net capitalization would actually be not much above $50,000 per mile.

On the basis of its earnings in 1906 the capitalization of the

Southern Pacific compares favorably with that of the Atchison, its showing of 6.6% net earnings on total capital standing against 5.9% net earnings on total capital for the Atchison. Both these figures, however, are very much below that of the other Pacific companies, that of the Union Pacific being nominally 8.0%, the Northern Pacific 9.6% the Great Northern 10.1%, Canadian Pacific 9.4%.

The larger part of the capitalization is in the form of bonds, stock representing only 40% of the total.

On the other hand, in 1906 fixed charges consumed only half the nominal total net income (actually not over 40%), leaving an ample margin of safety for its underlying securities.

Equities Owned.

Unlike the Union Pacific, the Southern Pacific is not a large holding corporation, in the sense of holding large amounts of outstanding securities. Outside of the stocks and bonds of its "Proprietary Companies," that is, companies included in the operations of the system, it owns a total of $63,483,243, face value of the capital stocks of other companies, and $5,228,300 of outside bonds. The amount at which these outside holdings are carried on the books of the Company is not separately stated. The chief items are:

Pacific Mail Steamship Company, $10,010,000 (a bare majority in the capital stock).

Pacific Electric Ry Co., $10,000,000 (par value, constituting an even half interest).

San Francisco & No. Pacific RR. Co., $5,590,000 (par value, very closely the entire amount outstanding).

North Shore RR. Co., $5,980,400 (practically the entire issue).

Mexican International, $4,172,100 (a small minority).

Stocks of Oil Companies, $17,008,436 (value not indicated).

In 1906 the Southern Pacific received in dividends from these stocks $372,668, but this would probably not indicate in any way the market value of these securities. For example, the Pacific Mail pays no dividends, but control of this large steamship company is undoubtedly of great value to the Southern Pacific RR. Most of the other securities, aside from the stocks of the oil companies and electric railways, are stocks of small roads which will eventually be merged into the system.

In addition to the above, the Southern Pacific, or its constituent companies, had in 1906 a total of 15,000,000 acres of unsold land. On the lands sold during the year the price averaged was $2.73 per acre. It would be difficult to give a general valuation to this asset, but on the basis of the average price of 1906 it might readily exceed $25,000,000 or $30,000,000.

Increase of Capitalization.

In the six years from 1900 the capitalization of the system was not greatly increased, the amount of common stock remaining practically the same. The principal items of increase, as will be seen from the following table, were the issue of a little less than $40,000,000 of the authorized $100,000,000 of 7% preferred stock, redeemable at 115, and about $50,000,000 in new bonds.

If the proportion of this increase which went to the purchase of outside securities, including Pacific Mail, be deducted, the actual increase of capitalization of the system in six years was considerably under 15%, while at the same time the gross earnings (rail lines only) increased 50%.

This is largely due to the fact that the road paid no dividends until 1906 and that all its surplus was turned back into improvements of the property.

Year	Common Stock	Preferred Stock	Funded Debt (Net)	Total Capital	Gross Earnings (Rail lines)
1900...	$197,832,148	....	$305,376,417	$503,408,665	$65,279,622
1906...	197,849,258	39,569,840	354,737,321	592,156,419	99,123,549

Increase over six years: Total capital, 18%; gross earnings, 50%.

In 1907 the amount of preferred stock was increased to $75,-569,840 through the issue of about $36,000,000 new stock.

Character of Traffic.

Unlike the Cnion Pacific, the Southern Pacific carefully itemizes its traffic. In 1906, farm products contributed 22%, mine products 27%, forest products 21%, merchandise and manufactures 30%. It is easy to see that with 9,000 miles of track distributed all the way from Texas to the Columbia River, and the Central Pacific line striking eastward from Ogden, considering also its water lines, that its traffic would be exceedingly diversified.

Passenger earnings are high, amounting to over 25% of the gross earnings.

Stability of Earnings.

In ten years the operated mileage of the Southern Pacific has increased nearly 2,000 miles, while in the meantime the gross earnings have more than doubled. The effect of this, as will be seen, was to increase the mileage earnings by more than half.

Year	Miles Operated	Gross Earnings Rail Lines	Per Mile
1896–7............	7,358	$46,578,034	$6,330
1897–8............	7,372	53,424,913	7,247
1898–9............	7,843	57,497,155	7,331
1899–0............	8,215	65,279,622	7,946
1900–1............	8,655	73,163,558	8,453
1901–2............	8,757	78,923,723	9,012
1902–3............	8,842	82,925,287	9,378
1903–4............	9,025	86,910,506	9,630
1904–5............	9,138	89,403,632	9,784
1905–6............	9,191	99,123,549	10,784

In the above table only the earnings of the rail lines are given. The earnings of the water lines, &c., increased the gross earnings of 1905 by $6,000,000, and in 1906 by $6,500,000; the gross income of the land department by $4,700,000 in 1905, and by $6,000,000 in 1906, bringing the total earnings of the company for 1906 up to $111,720,176, as against a total of $100,237,084 in 1905.

The average freight rates of the Southern Pacific are higher than those of any other Pacific road, comparison in 1906 being as follows:

Southern Pacific...........................	1.02c.
Atchison...................................	.93
Union Pacific..............................	.91
Northern Pacific...........................	.83
Great Northern.............................	.79
Canadian Pacific...........................	.74

It will be seen from the above that the average rates of the Southern Pacific are more than 25% higher than those of the Great Northern, and almost equally above the Northern Pacific. With the completion of the Portland & Seattle line from Spokane to Portland, the Great Northern and Northern Pacific will have a water grade route from the "inland empire" of Washington State to the coast, which will cut out one of the two mountain

ranges which they traverse and will put these two roads in an almost impregnable position for the carriage of over-land traffic. It is obvious that they will be in much better position to meet either a reduction in rates, should business necessitate, or the prospective competition of the Panama Canal. On the other hand, it may be argued that the Southern Pacific has turned back enormous sums into the improvements of its property, with the consequent steady reduction in the cost of conducting transportation and that, even though its gross revenues might considerably be reduced by a reduction in rates, it has a higher level from which this reduction might be made than the other roads, and that a very considerable reduction might sufficiently enlarge its traffic to make little sensible difference in the gross or net earnings.

It is to be noted, however, that the average rates of the Southern Pacific in 1906 were slightly higher than in the general bedrock year of 1899, when they were .95c., while the average rates of the Northern roads have very sensibly decreased. This fact may have a material bearing in the discussion of freight rates, and likewise whether the Union Pacific-Southern Pacific joint ownership constitutes a combination in restraint of trade.

Maintenance.

For a number of years the Southern Pacific has very heavily charged its maintenance account for improvements, its average charges being higher than those of any other Pacific road and over $1,100 per mile higher, for example, than the average charges of the Great Northern.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	563,056	$1,175	$901	$2,076
1901–2.......	566,130	1,381	1,042	2,423
1902–3.......	569,487	1,478	1,222	2,700
1903–4.......	591,423	1,364	1,335	2,699
1904–5.......	600,738	1,503	1,421	2,924
1905–6.......	678,554	1,775	1,554	3,329
Average	594,898	$1,446	$1,246	$2,692
Atchison......	557,005	$1,123	$1,113	$2,236
Union Pac....	739,206	1,173	1,049	2,222
North Pac....	729,102	1,300	791	2,091
Gt. North....	650,321	960	594	1,554
Mo. P. (2 yrs.)	623,807	819	821	1,640
Burlington....	580,024	1,104	1,032	2,136

It will be seen from the comparison adduced above that, had the Southern Pacific's nominal maintenance charges been on a Great Northern basis, the surplus shown annually would have amounted to over $1,100 per mile more than it did; that is to say, in the neighborhood of $10,000,000, or upwards of $50,000,000 for the six years under view. Nor was there any reduction in this disparity for 1906. For example, the Great Northern's nominal maintenance for 1906 was on a basis of $1,908 per mile, as compared with $3,309 per mile for the Southern, an average difference of over $1,400 per mile. This, distributed over 9,000 miles of road would have made a total difference in the surplus shown of over $12,000,000. This is a large sum, even for a road of the huge operated mileage of the Southern Pacific. There is no reason to suppose that the normal maintenance of the one road should be 75% higher than the other, and this indicates clearly enough the wide margin for a reduction of the operating expenses which the Southern Pacific has in case of need.

Improvements from Earnings.

Like the Burlington road, the Southern Pacific has charged a large amount of improvements directly to operating expenses not shown separately in income account, so that there were no further appropriations from surplus for improvements, as with most other Pacific roads. These separate appropriations for six years amounted on the Union Pacific to nearly $20,000,000; on the Great Northern to $15,000,000; on the Northern Pacific to $20,000,000 and on the Atchison to nearly $16,000,000. If the excess maintenance charges on the Southern Pacific had amounted for six years to no more than $500 per mile—a low estimate—this would have been equivalent to an annual appropriation for improvements in excess of $4,000,000, or a total for the six years under view of around $25,000,000.

It appears from the reports that in these six years upwards of $100,000,000 has been expended by the Southern Pacific in the construction of new lines and the reconstruction and betterment of existing lines, equipment, &c., and that a part of this expenditure was provided for from surplus earnings, but the amounts of the latter were not separately shown.

Largely in consequence of this enormous expenditure there has been a steady decrease in the cost of conducting transportation, the proportion of gross income required for conducting trans-

portation and general expenses falling, according to Mr. Mundy's table, from above 37% in the fiscal years of 1903-4 to a little over 31% in 1906. It is further stated in the reports that during the year of 1906 cost of fuel for locomotives decreased $952,022, resulting from the extended use of oil for fuel and from the greater capacity of the locomotives.

Surplus Earnings.

In the following table the various sums charged off for the depreciation of equipment, &c., have been added to the nominal surplus shown in the reports of the company. These items were not considerable, save in the year of 1906, when included in the surplus shown below was $2,117,286 set aside as a reserve for maintenance, renewals, &c., and charged into maintenance expenses. Under this arrangement the surplus earnings for six years have shown as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Average Price
1900–1	$10,492,512		5.3	51
1901–2	10,990,285		5.5	66
1902–3	9,462,588		4.7	51
1903–4	9,593,214		4.8	52
1904–5	13,124,415		6.6	66
1905–6	22,030,656	7	9.7	79

It will be seen from the above that the increase for 1906 was quite extraordinary. This was due partly to decreased interest charges from the sale of $39,500,000 of new preferred stock and with this retiring a large floating debt; for the rest, to a heavy increase in earnings. The showing was not made at the cost of maintenance charges, since the latter were over $400 per mile greater in 1906 than in 1905, or an increase of nearly 25%, while the gross earnings of the company increased only a little over 10%.

As already noted, owing to the great improvements effected in the road, the company was able in 1906 to earn $10,000,000 more in gross over 1905, with no increase in the cost of conducting transportation. This is scientific railroading and indicates that the large increase in the surplus shown was upon a healthy basis, and really represents the increased earnings capacity of the company's capital. This increase was sufficient to provide for the 7% dividends on the $39,500,000 of preferred stock issued

in the year preceding, and still raise the percentage earned on the common stock from 6.6% in 1905 to 9.7% in 1906.

The Balance Sheet.

So complicated are the accounts of the various companies constituting the Southern Pacific system that it is extremely difficult to determine the actual ledger conditions of the system at the close of its fiscal year.

Excluding materials and other supplies, the balance sheet, as of June 30th, 1906, showed:

Current Assets	$21,629,872
Current Liabilities	19,238,252
Leaving a working balance	$ 2,391,620

There were deferred assets, consisting principally of advances to other lines, including

The purchase of steamships, &c	$48,255,184
Due from proprietary companies	19,786,944
Contingent Assets	3,846,232
Total	$71,888,360
Due to proprietary companies	51,414,142
Contingent liabilities, including replacement funds, maintenance, reserves, &c	15,021,193

Of the amount due to proprietary companies $38,386,293 was due to the Southern Pacific Company, all of whose stock is owned by the Railway Company, so that this item was merely a matter of bookkeeping.

The item of cash on hand amounted to $14,530,551 and the balance to credit of profit and loss at the close of the year was $16,701,033.

Investment Value.

The preferred stock of the Southern Pacific, with the 1907 issue of $36,000,000 added, amounted to only about 12% of the gross capitalization of the system. As the fixed charges in 1906 consumed only 49%, the margin of safety for the payment of this dividend is wide. It is a seven per cent. non-cumulative stock, redeemable at any time up to July 1st, 1910, at 115, and is convertible into common

stock at par at the option of the holder. The fact that this stock is convertible at a fixed price, at the option of the company, up to a certain date, tends naturally to make it sell somewhere near this price, and not as much above as it otherwise might. The average price of 1906 was around 117, and on this basis its yield to the investor is 6% flat. As a matter of fact, there was in 1907 very little prospect of this stock being redeemed. There seemed little likelihood that the pressure for money, which has made it so difficult for railroads to finance improvements and additions, would relax sufficiently to enable the Southern Pacific to obtain funds at a sufficiently low rate to make the redemption of this stock profitable. It appears, therefore, to be a solid 7% security, with ample margin of safety for its dividend, and yielding at the prevailing rate as high an interest as the best short-term railway notes. On the other hand, the stock is convertible into common stock at par.

In 1906 the common stock was placed on a 5% basis, amply justified by the earnings of the road and with a larger prospect of the dividend being increased than reduced. The earnings of the road for the fiscal year of 1907 were enormous, and as the Union Pacific owns very nearly half of the common stock, together with very nearly half of the preferred stock, there seems every reason to believe that a liberal dividend policy, once begun, will be continued.

The holder of the preferred stock, therefore, has the prospect of being able to convert his preferred into other stock, not perhaps yielding 7%, but on a possible 6% basis, likely to sell at a rather higher figure than the prevailing prices for the preferred, should money conditions return to a more normal basis. The question is, therefore, what is the prospect for an increase of the dividend on the common.

The report of 1906 showed that the company had under construction or projected, over 1,600 miles of new track, including a line down the Mexican coast to Guadalajara, about 775 miles. The Union Pacific system likewise was building northward from Portland to Tacoma and Seattle, and, while the majority of the business which this new road may gather will probably be turned towards the Oregon Short Line, it will mean that the Southern Pacific will no longer be dependent upon traffic agreements for a through line from San Francisco and other California points, to Puget Sound.

But, while the Union Pacific-Southern Pacific system was thus engaged in a vigorous policy of extending, other lines were equally active. The Western Pacific was building, as an extension of the Denver & Rio Grande—that is to say, the Gould system—a line paralleling the Central Pacific portion of the Southern Pacific, from Ogden to San Francisco, crossing and recrossing it and offering a line, if not shorter, at least of lower grades.

Likewise the Southern Pacific will no longer have undisputed possession of the traffic westward from New Orleans, since the St. Louis & San Francisco—that is to say, the Rock Island system—has obtained entry into that port. The Kansas City Southern is likewise building a New Orleans line, and it is to be presumed that the Colorado Southern will have trackage rights in connection with the 'Frisco line. There has also been extensive building of rival lines in Texas, paralleling many important portions of the Southern Pacific in that great State. In other words, in at least two large sections the Southern Pacific must meet a much more effective competition than it has had hitherto. Given, however, that the business of the country undergoes no serious recession, there seems no likelihood that this should vitally impair the earnings of the road, and while it might be compelled to reduce its rates, this might readily be offset by an increase in business.

By a compact concluded in 1906 the threatened competition of the Atchison lines in northern California was eliminated through the formation of a company to be operated in the joint interest of the two roads. So long, therefore, as the Southern's relation with the Atchison remain friendly, and the Union Pacific interests are permitted to retain a considerable amount of Atchison stock, there seems no threat of competition from this source which would affect its revenues. The Southern Pacific is, quite apart from its connection with the Union Pacific, a system of enormous extent, covering a wide variety of territory and, therefore, of traffic. The activity of copper mining in Arizona and Mexico has added a high-grade and very profitable source of revenues, and the development of arid regions through irrigation, with large government aid, can only tend in the same direction. It would require, therefore, a business depression of continental range vitally to affect the earnings of the Southern Pacific, and it would require a very serious depression to impair the permanence of its dividends. Unless, therefore, such a depression

should come, the securities of the Southern Pacific would appear to be as attractive as any to be found on the list.

The Southern Pacific has for a number of years been a speculative favorite and has become especially so since the unusual declaration of an initial dividend of 5%. Because of its market position, the stock is liable to find its way into weak hands and therefore to be subject to very wide fluctuations in price. After the payment of the 5% dividend, the common sold as high as 97½, declining in the severe slump of March, 1907, as low as 70. This decline was in the face of an astonishing increase of gross earnings (though not of net). While it seems improbable that the extraordinary increase in its earnings can continue at the same rapid rate, it would seem that nothing short of a severe reaction in trade would prevent at least a steady increase, and if this was realized, the stock might readily be placed upon a 6% basis. If at the same time, money rates were to fall to a more normal level, this would tend to put the stock considerably above par. At any considerable premium, prospect of a further advance would of course be weighted by possibility of the conversion of at least a part of the $75,000,000 of 7% preferred. The Union Pacific, holding nearly half of the preferred, subscribed for at par, would of course have no interest in converting, unless the common were raised to better than a 7% basis; and the same is true, doubtless, of a considerable part of the remaining holdings.

At a valuation of $83 per share, the common stock yields the investor 6%, and purchased at anything like these figures, would seem to represent an attractive investment. The purchaser, however, will bear in mind the point noted above—that the stock is liable to wide fluctuations, and he will therefore take care to buy it only on sharp recessions and at such figures as would enable him to view a still further decline with equanimity.

SOUTHERN RAILWAY.

The larger part of the old "South"—that is to say, the territory lying to the south of the Norfolk and Western and to the east of the lines of the Illinois Central along the Mississippi River, is practically monopolized by three great systems. These are the Atlantic Coast Line, which through its ownership of the Louisville and Nashville and several subsidiary roads controls about 11,000 miles of rail; the Seaboard Air Line controlling a little short of 3,000 miles of road along the Atlantic coast; and the Southern Railway, which with it ownership of subsidiary roads controls about the same mileage as the Atlantic Coast System.

The Southern Railway is a relict from one of the exploits of Jay Gould and directly a reorganization of the old Richmond Terminal, which played so large a part in stock market operations in the Gould days. The Southern directly operates about 7,500 miles of rail and controls by stock ownership about 1,800 miles more; practically the same interests which control the Southern are dominant in the Central of Georgia Railroad with nearly 1,800 miles of additional line.

The Southern extends southwards from Washington and Norfolk to Atlanta, Ga., and Jacksonville, Fla., with branches through Chattanooga to Memphis; through Birmingham to Greenville on the Mississippi; and from Birmingham southward to Mobile. It has also a line joining the Cincinnati and New Orleans at Lexington, Ky., and extending from there to St. Louis. To all intents the Mobile and Ohio, extending from St. Louis to Mobile; the Alabama Great Southern; the Georgia Southern and Florida; and the Northern Alabama are part of the Southern system, although operated separately.

Jointly with the Cincinnati, Hamilton and Dayton the Southern controls the Cincinnati, New Orleans and Texas Pacific, and jointly with the Louisville and Nashville it controls the Monon; through these its line reach to Cincinnati and to Chicago on the North. Its network of railways forms a compact and homogeneous system which largely dominates one of the richest sections of the United States.

History.

The Richmond and West Point Terminal Railway and Warehouse Company, usually known as the Richmond Terminal, came into existence in 1880, largely for the purpose of carrying out Mr. Gould's plan of consolidating a huge system of southern railroads. Through purchase of stock it gained control of the old Richmond and Danville, the East Tennessee, Virginia and Georgia, and the Central Railroad and Banking Company of Georgia. All told it had built up before the crash, a system of nearly 8,500 miles.

The Richmond and Danville at the time it was taken over, embraced about 3,150 miles of railroad. The company originated in 1847 and the line from Richmond to Danville was opened in 1856. Until its disastrous lease of the Georgia Pacific, it was a highly prosperous road and paid as high as 10% dividends.

The East Tennessee, Virginia and Georgia Railroad, with about 2,500 miles of road, represented the consolidation of various small lines, the consolidated company being sold under foreclosure in 1886 and succeeded by a Railway company of the same name.

The Central Georgia was one of the oldest railways of the country having been begun far back in 1835, and completed in 1843. With the amalgamation of several smaller lines it operated at the time it became a part of the Richmond Terminal system, about 1,600 miles of road. It was leased to the Georgia Pacific, which in turn was leased by the Richmond and Danville. Up to the time it was taken over it had been a very well operated company but in the disasters that followed the consolidation, it went into bankruptcy and many well-to-do Southern families were ruined.

In 1892 the system passed into the hands of receivers, having defaulted its interest payments, and in the reorganization that followed the Central of Georgia was returned to its owners to be reorganized, and the balance of the system was consolidated in the new Southern Railway Company, operating directly about 4,100 miles of track. Since then, by the merger of various small lines, it has been steadily built up until it now operates directly about 3,400 miles additional, and controls directly through stock ownership 1,800 miles more.

The gross earnings of the company in the first year of its operations were $17,000,000, and in 1906 over $53,000,000, a gain of more than 200%.

Ownership.

The control of the reorganized company was vested in a voting trust consisting of J. Pierpont Morgan, Charles Lanier, of the banking firm of Winslow, Lanier and Company, and George F. Baker, president of the First National Bank, New York. This voting trust still survives. The Southern is known as one of the "Morgan" lines, and is understood to be dominated by Morgan interests.

The directorate of 1906 included Charles Steele of the firm of J. P. Morgan and Company; James T. Woodward, president of the Hanover National Bank, understood to be associated with Morgan interests; Charles Lanier of the banking firm of Winslow, Lanier and Co., New York; Adrian Iselin, Jr., vice-president of the Buffalo, Rochester and Pittsburg, and a director in the Gallatin National Bank, New York; Robert M. Gallaway, president of the Merchants National Bank, also a director in the Monon, the Hocking Valley, and in several Gould lines of the West, including the Iron Mountain, Texas Pacific and so forth; Edmund D. Randolph, ex-treasurer of the New York Life Insurance Company; Harris C. Fahnestock, vice-president of the First National Bank, New York, also a director in the Lackawanna, the Central Railroad of New Jersey, and other companies; Samuel M. Inman, of Atlanta, Georgia; Joseph Bryan, of Richmond, Va.; Alexander B. Andrews, first vice-president of the Southern Railway, Raleigh, N. C.; and William W. Finley, president, Washington, D. C.

In 1905 the Southern Railway reported 9,572 share holders.

Save as to its subsidiary roads, the Southern has no special affiliations with other lines; but as already stated the Central of Georgia is under practically the same ownership and the two lines are operated in close association. Naturally the road participates to some extent in the Vanderbilt-Pennsylvania-Morgan community of interest scheme.

Capitalization.

Coming as it did as a reorganization of a grossly over-capitalized company, the new Southern road did not escape the evil legacy of its predecessor and on $120,000,000 of common stock no dividends have ever been paid or earned. It is instructive to note that the stock capital of the company remains the same, with almost double the mileage it operated at the beginning.

A large part of the system is made up of leased lines and a part of the capitalization of these subsidiary companies is given in the company's reports. It is difficult to sift out the rented lines from those whose funded debt is stated, but the following table gives a fair approximation of the actual capitalization of the road, as of June 30, 1906:

Common stock	$120,000,000
Preferred stock	60,000,000
Total stock	$180,000,000
Funded debt	175,631,900
Leased lines	32,358,500
Equip. Obligations	24,033,216
Total capital	$412,023,616
Rentals capitalized at 4%	18,842,500
Approx. gross capital	$430,866,116
Securities held	67,890,646
Approx. net capital	$362,976,470
Approx. net capital. per mile	$49,223
Average miles operated	7,374
Net earnings on net capital	4.2%
Stock on net capital	50%
Fixed charges on total net income	69%
Factor of Safety	31%

It will be seen from the above that the net capitalization is high. The estimate of $49,223 per mile compares with $47,453 per mile for the Seaboard Air Line; $28,403 for the Atlantic Coast; $39,684 for the Louisville and Nashville; and $31,771 for the Central of Georgia.

When net earnings are compared with the estimated net capitalization, the fact of over capitalization becomes accentuated, the net earnings of 1906 showing only 4.2% on the estimated net capital. This is slightly higher than the over-capitalized Seaboard Air Line, whose net earnings show only 3.7% on the net capitalization, and stands against 7.1% for the Atlantic Coast Line, 8.9% for the Louisville and Nashville, and, for example, against 6.7% for the Norfolk and Western and 7% for the Chesapeake and Ohio. All of

these figures are below the general level of western roads, with about the same mileage earnings, and not a very different character of traffic.

But of this high capitalization a full half is represented by stock and two-thirds of this stock, namely the $120,000,000 of common, represents merely possibilities.

The showing of Fixed Charges on Total Net Income however, is not favorable. Even in the highly prosperous year of 1906, the Fixed Charges consumed nearly 70% of available income, leaving a Factor of Safety on the underlying securities of only 30%; and in 1907 the proportion of Fixed Charges was heavily increased.

On the Norfolk and Western, for example, Fixed Charges were only 37% in 1906, on the Baltimore and Ohio only 39%, and on the Pennsylvania only 38%. In other words, it will be seen that the reorganized system is still heavily loaded with debt, and is not in a strong position to stand a prolonged period of adversity. The Fixed Charges of the reorganized company were not heavily scaled as in the resuscitation of many other bankrupt roads, and instead of keeping this indebtedness down as would have seemed the wiser policy, the company has added practically $100,000,000 of debt since it was reformed.

Equities Owned.

Of the $67,000,000 of securities owned, shown in the table above, $8,652,000 were the company's own development and general mortgage bonds. Practically all of the balance of these securities was pledged under the various mortgages.

The Southern owns $8,086,000 of the Mobile and Ohio general mortgage 4% bonds, and $5,672,200 stock. On this stock it is at present receiving 5% dividends while the road is actually earning about 20% on its stock.

The Southern owns $4,898,450 of the common stock and $1,-936,700 preferred of the Monon, constituting one half of the control of that road. It receives 4% on the preferred and 3% on the common and the latter dividend might readily be doubled on the basis of present earnings. The company has therefore a small equity in this holding.

The balance of the securities amounting to par value of over $30,000,000 is grouped as "Miscellaneous" without being further itemized. In 1906 on securities of a book valuation of $59,238,646 the company received a little over 2½%, so that on the basis of

the 1906 returns the book valuation would be excessive. It is probable, however, that the equities in the undistributed surplus of the various subsidiary companies would readily bring the income up to a figure which would indicate somewhere near the book valuation.

Beyond the items mentioned the Southern could not greatly swell its income by increasing the distribution of its controlled companies.

Increase of Capitalization.

From the following table it will be seen that since 1900, while the amounts of both common and preferred stock have remained stationary. the funded debt has been increased $97,000,000.

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1900....	$120,0000,00	$60,000,000	$135,859,592	$315,859,592	$31,388,015
1906....	120,000,000	60,000,000	232,026,165	412,026,165	53,641,438

Increase over six years: Total Capital, 30%; gross earnings, 71%.

The effect of this increase in debt was to increase the nominal indebtedness of the road by 70%, and at the same time its gross earnings rose 71%. This was not a remarkable showing. The effect of the increase in earnings has simply been to give a semblance of value to a large amount of securities which had otherwise no value whatever, save for the purpose of stock control. Had this increase in the capitalization been in stock instead of an addition to an already heavy burden to the Fixed Charges, the company would have been in a very different position from what it is now.

Character of Traffic.

The passenger earnings of the road are relatively high, constituting about one-quarter of the gross earnings.

Of the tonnage moved about 13% is farm products, of which cotton and its products make up about one-third. Products of mines make up 38% of the gross tonnage, the larger part being carriage of bituminous coal. Lumber and manufactures make up the balance.

The management has apparently not been able to increase the average train load at the same rate which for example many western roads have shown. In nine years from 1898 the average train load has increased from 149 tons to 204 tons. The average receipts per ton-mile have remained practically stationary within this period,

amounting to .93c. per ton per mile in 1898 and 1906. In the same period average receipts per freight train mile have risen from $1.39 to $1.90.

Stability of Earnings.

The increase in earnings in the ten years ended in 1906 has been something extraordinary. As noted above the average of freight rates received has been unchanged so that the entire increase of earnings has been due to an increase of business. In these ten years the operated mileage has increased about 57% while in the same period the gross earnings have increased more than 200%. As a result of this tremendous advance the gross earnings per mile have risen from $3,970 to $7,274, an increase of 82%. This increase has been steady, showing no check from year to year, as the following table reveals:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7	4,806	$19,079,500	$3,970
1897–8	4,938	21,095,839	4,272
1898–9	5,378	25,353,686	4,714
1899–0	6,365	31,388,015	4,947
1900–1	6,425	33,607,582	5,230
1901–2	6,744	37,712,248	5,592
1902–3	7,129	42,354,060	5,941
1903–4	7,164	45,109,777	6,297
1904–5	7,199	48,145,108	6,688
1905–6	7,374	53,641,438	7,274

The very remarkable increase in earnings for 1906 will not escape the attention of the investor, the sheer increase amounting to nearly $600 per mile. If anything like this rate of increase over ten years could continue, it is obvious that the Southern would soon be in a strong position. In the 1906 report, the company points out that since June 30th, 1895, the road has added nearly a thousand locomotives, increasing the number to 1,541, it has doubled the number of passenger cars, and it has more than tripled the number of freight cars.

Maintenance.

But while this great increase of earnings has taken place, there has been no corresponding increase in the sums devoted to the maintenance of the road. In the six years from 1901, the traffic density has risen by nearly one-half. In the meantime the average of maintenance of way per mile has risen only from $846 to $965 per mile. The outlay in 1901 may have been liberal, though it does

not seem so, but in any event it is difficult to believe that an added traffic density of nearly 50% could be cared for by an added maintenance of way of only $120 per mile.

The maintenance of equipment has increased with the increase of the traffic, and in 1906 was undoubtedly liberal. Probably, however, between the two there was no excessive expenditure and no earnings concealed in these items. The table for six years is as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	364,833	$846	$764	$1,610
1901–2.......	397,184	855	838	1,693
1902–3.......	414,469	804	970	1,774
1903–4.......	449,227	796	1,014	1,810
1904–5.......	467,893	897	1,035	1,932
1905–6.......	524,317	965	1,164	2,129
Average	435,987	$860	$964	$1,824
L. & N.......	929,594	1,490	1,537	3,027
Seaboard.....	311,366	620	611	1,221
Atl. Coast.....	259,769	709	556	1,265
Ill. Central....	1,180,351	1,386	1,486	2,872
So. Pacific ...	594,898	1,446	1,246	2,692

Compared with the other southern roads it will be seen that the Southern makes a very favorable showing, but it will be remembered that the standard of southern roads, with the exception of the Louisville and Nashville, is not high.

Improvements from Earnings.

By 1904 the surplus shown had reached so favorable a figure that the road was able to begin to devote a part of its surplus for betterments and in three years the following sums were set aside:

1903-4..................................	$773,806
1904-5..................................	1,056,549
1905-6..................................	999,827
Total.............................	$2,830,182

Laid out over upwards of 7,000 miles of track these are not very large sums, and cannot of course be compared with northern and western roads. For example, the Norfolk and Western, with present earnings per mile not very greatly in excess of the Southern and about the same average of maintenance, has in these same three

years turned back into the road for betterments, $14,600,000. Similar large sums have been set aside by the roads of the middle West. The reason that the northwestern roads are able to make these lavish outlays from earnings and still pay large dividends on their entire capital stock is that they are on the average capitalized for about $30,000 per mile as against $50,000 per mile for the Southern Railway, and because their Fixed Charges consume only from 40% to 45% of their available surplus income, as against nearly 70% for the Southern. It is not due to any difference in earnings, or in economy of operation, and is a very practical illustration of what over-capitalization means. It is in consequence of this that the common stock of these northwestern roads sells at around $200 per share, while that of the Southern is a purely speculative article at from $20 to $40 per share.

Surplus Earnings.

Another consequence of the same fact is that the surplus available for dividends on the Southern has never shown more than a bare 10% on its net income, while many well-managed roads like the St. Paul frequently show as high as 25%.

From the following table it will be seen that in the six years up to 1906, little or nothing has ever been earned on the common stock, above the full 5% on the preferred.

Year	Surplus	Dividend Paid on Preferred	Per cent. Earned on Common	Average Price Vot. Trust Certifs.
1900–1	$3,540,500	4	.45	27
1901–2	3,600,897	5	.5	32
1902–3	3,707,477	5	.58	26
1903–4	4,180,399	5	.98	28
1904–5	5,151,632	5	1.79	33
1905–6	5,229,065	5	1.85	38

Dividend Record.

In 1897 a one per cent. dividend was begun on the $60,000,000 of preferred stock, increasing to 2% in 1899, 3% in 1900, 4% in 1901. The full 5% has been paid from 1902.

The Balance Sheet.

On June 30th, 1906, the balance sheet showed:

Current assets	$14,685,966
Current liabilities	12,346,045
Leaving a credit balance of	$2,339,921

The item of cash amounted to $5,473,300, and the credit to Profit and Loss was $8,341,744.

In addition to the liabilities grouped up under these amounts, there were a number of larger items not so included, e.g.

Certificates of indebtedness	$1,750,000
Account of purchase of Tennessee Central bonds unmatured	2,750,000
Account of new steel rail purchase unmatured	2,660,250
Balance of purchase price of the Northeastern of Georgia	107,000
Interest and rentals accrued but not due	1,400,616
Taxes accrued but not due	606,323
Reserve for dividends payable	1,500,000
Total	$10,774,189

Against these liabilities there were:

Bills receivable, deferred but secured	$1,277,995
Advances to subsidiary companies	3,116,457
Sundry accounts	489,752
	$4,884,204

It will be seen therefore that above its nominal working capital the company had at the close of its fiscal year a considerable amount of obligations requiring speedily to be funded in one way or another.

Investment Value.

The report of 1906 stated that the rapid increase in the business of the road required larger expenditures than hitherto and to meet these expenditures the road began the issue of more bonds. It created in 1906 a development and general mortgage of an authorized amount of $200,000,000, $15,000,000 par value of this being issued.

In January of 1907 $15,000,000 of 3-year 5% notes were sold at a considerable discount.

The effect of this note issue and some smaller bond issues was to raise the fixed charges for 1907 by approximately $1,000,000. In the meantime net earnings showed a rather terrific slump. With a small increase in gross, the net for the year declined more than two millions. The result of this, with no considerable increase in

the amount of other income, was to raise the proportion of fixed charges to total net income to above 85%—a highly significant figure. The surplus remaining was decreased by more than half from the previous year and was insufficient to meet the full 5% on the preferred stock, though the half yearly dividend of two and one-half per cent. was declared in March. The preferred stock is entitled to a 5% non-cumulative dividend. In January of 1906 it sold at $103 per share and in April of 1907 it sold at $63 per share. The proportion of expenses and taxes to the gross in 1906 was 74% and in 1907 this rose to around 78%. It is obvious that unless the company can make a better showing than this, the stock presents little attraction as a solid investment.

As for the $120,000,000 of common, it has the distinction of being the largest amount of pure water shown by any railway in the United States. At no time in the company's history has it ever had a semblance of value other than for voting purposes. And yet this stock sold at $36 per share in 1903 and at $42 per share in 1906. It sold as low as $16 per share in 1903 and in April of 1907 it sold below $20. With steadily rising costs of operation and proportion of fixed charges the stock could hardly be regarded as an attractive speculation even at the latter figures.

TEXAS AND PACIFIC RAILWAY.

The Texas & Pacific forms a part of the Gould Southwestern system and is controlled in the interest of and operated in close association with the Missouri Pacific. Its lines extend from New Orleans to Texarkana, where it joins the lines of the Iron Mountain, and thence westerly through Fort Worth to El Paso, at a westernmost point of Texas. It also operates in close association with the International & Great Northern, whose lines extend southwardly from Long View and Fort Worth to Galveston, and to Laredo on the Mexican border, where they join the lines of the Mexican National Railroad.

In 1906 the Texas & Pacific operated 1,848 miles and its directorate was made up entirely in the Gould interest, comprising George J. Gould, president, Edwin, Frank and Howard Gould, Winslow S. Pierce, etc.

As of June 30th, 1906, the Missouri Pacific owned $6,252,000 of the stock, and practically all of the income bonds, save those held in the treasury, were owned by the Iron Mountain, having been exchanged for 4% collateral Iron Mountain bonds on a basis of 65%.

The company was organized under Act of Congress in 1871, and after passing into hands of receivers was reorganized without confirmation of the foreclosure sale of 1887, whereby the original federal charter was preserved.

Capitalization.

As of January 1st, 1907, the capital account stood as follows:

Common stock......................	$38,763,810
Income bonds......................	24,984,645
Total	$63,748,455

Funded debt	29,516,936
Equipment bonds, etc	1,010,901
Total capital	$94,276,292
Securities held	647,597
Approx. net capitalization	$93,628,695

Average net capital. per mile	$50,664
Miles operated	1,848
Net earnings on net capital	5.3%
Stock on net capital	67%
Fixed Charges on total net income	40%
Factor of Safety	60%

It will be seen that with gross earnings of only $8,000 per mile, the capitalization of $50,664 per mile was very high. If, however, the income bonds be included as a part of the stock issues, they comprised a full two-thirds of the gross capitalization, and on the $38,763,810 of common stock no dividends have ever been paid.

In 1906 the net earnings showed the fairly respectable figure of 5.3% on the net capitalization, but this was an exceptional year, and that of previous years was much lower.

Excluding the interest paid on the income bonds, the fixed charges for 1906 consumed only 40% of the total net earnings, leaving a very solid margin of safety for the underlying securities. The full 5% interest on the income bonds consumed only 20% more, leaving a margin of safety for these bonds of 40%.

The securities held by the Texas & Pacific were chiefly its own bonds, and of no especial interest.

The company was very heavily over-capitalized from the beginning, but since 1900 there has been practically no increase in the stock and bond issues, save about one million of equipment bonds, etc., and in the meantime the income has considerably increased, so that the company has been slowly growing up to its capitalization. Considerable sums have been turned back from earnings into improvements of the property.

The following table exhibits the mileage and earnings of the road for a series of years:

Year	Miles Operated	Gross Earnings	Per Mile
1896..............	1,499	$6,825,145	$4,453
1897..............	1,499	7,588,549	5,062
1898..............	1,499	8,006,503	5,341
1899..............	1,492	8,300,185	5,563
1900..............	1,527	9,751,121	6,385
1901..............	1,634	11,769,942	7,203
1902..............	1,697	11,236,601	6,621
1903..............	1,727	12,094,744	7,003
1904..............	1,826	12,433,147	6,809
1905..............	1,826	12,130,391	6,643
1906..............	1,848	14,914,607	8,110

It will be seen that with no great increase in mileage, the earnings have nearly doubled in ten years, and since 1900, with practically no increase of capitalization, have increased more than 50%. This is an excellent showing. The traffic of the road is largely agricultural, cotton shipments being a considerable factor.

Maintenance.

The following table exhibits the traffic density and maintenance charges over a period of seven years:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900.........	438,845	$988	$735	$1,723
1901.........	540,242	1,103	852	1,955
1902.........	435,146	919	831	1,750
1903.........	484,576	879	808	1,687
1904.........	401,301	730	752	1,482
1905.........	445,948	706	750	1,456
1906.........	520,124	824	994	1,818
Average	466,599	$878	$817	$1,695

It will be seen that the maintenance charges were rather low, even for a prairie road with the traffic density of the Texas & Pacific. Still they compare favorably with those of other roads in this section. It will be noted that the traffic density is rather variable and that it was higher in 1901 than in any subsequent year. The charges for 1906 were about in keeping with the general charges for the period under view.

In addition, however, to the ordinary maintenance charges, considerable sums have been set aside from the surplus for improvements, as follows:

1900................................	$655,307
1901................................	926,351

1902	2,207,358
1903	841,385
1904	1,272,233
1905	1,128,118
1906	1,518,574

Surplus Earnings.

Before the payment of the interest on the income bonds and before charging off the sums included in the table above, the surplus has shown as follows:

Year	Surplus	Per cent. Paid on Income Bonds	Per cent. Earned on Common Stock	Average Price. Calendar Years
1900	$1,792,585	1½	1.4	20
1901	2,413,329	4	3.	36
1902	1,881,744	5	1.6	45
1903	1,780,107	5	1.3	32
1904	2,430,973	5	3.	29
1905	2,010,796	5	2.	35
1906	3,082,619	5	4.8	35

The Balance Sheet.

As of June 30th, 1906, there were:

Current Assets of	$3,382,744
Current Liabilities of	6,561,387
Leaving a debit balance of	$3,178,643

Included in the current assets were:

Bills Payable	$4,450,200
Vouchers unpaid	1,081,924

The item of cash amounted to only $552,467. It will be seen, therefore, that the finances of the company were not in good shape, and that an issue of bonds or notes would be required to provide the road with working funds.

The credit balance of the income account was $1,570,712, the larger part of which would be required for the payment of the 5% interest on the income bonds for the year.

Investment Value.

It will be seen from the table of surplus earnings that in the seven years there shown, there have been funds ample for the payment of the full 5% on income bonds and the full amount has

been paid from 1902. Previous to that, 4% was paid in 1901 and 1½% in 1900. These bonds being almost entirely held in the Iron Mountain treasury, the matter was of interest only to the stockholders of the Iron Mountain road.

Above the payments on the income bonds, a small percentage has been earned in each year on the common stock, the exceptional year of 1906 showing 4.8%. On account, however, of the heavy capitalization of the company, practically all of this surplus was required for the improvement of the road; and the further fact that the company in 1906 was in need of working funds rendered the prospect of dividends on the stock rather vague.

It will be further noted that the mileage earnings were higher in 1901 than in any subsequent year up to 1906. In other words, the road has not shared to any large extent in the tremendous prosperity of the period. Competition is becoming very much keener, owing to the entry of the Rock Island system (the Frisco line) into New Orleans and the construction of the various other new lines in Texas. Unless, therefore, earnings should increase much more rapidly than they have, the stock seems more likely to fluctuate within somewhat the same limits as in the four or five years preceding. It sold up as high as $54 in 1902, under the exceptional showing of that year, declining as low as $20 in 1903 and 1904. It sold up to $41 in 1905, declining in the slump of March, 1907, to $25.

Earning no dividend, the stock is expensive to carry and should the high rates of 1906-7 continue, it is probable that the stock would decline to even lower figures than 1904. Purchased at very low prices it might show a considerable profit to holders who are content to wait, but there are other non-dividend stocks on the list of roads showing a much more vigorous management and larger prospects, which would likely exhibit much greater powers of recovery from any extensive recession of prices.

TOLEDO AND OHIO CENTRAL RAILWAY.

The Toledo and Ohio Central is practically a part of the Hocking Valley system. Ninety-nine per cent. of its stock is owned by the Hocking Valley, and its directors and operating officers are largely the same, though it is operated separately.

It is chiefly a coal road, running from the Ohio River to Toledo, through central Ohio, and extending under trackage rights into West Virginia. It operates a total of 441 miles. The line represents the reorganization, in 1885, of the old Ohio Central. In 1901 the Hocking Valley acquired all but a few shares of both common and preferred stock, exchanging on a basis of 70% of the Hocking Valley stock of the same class. It guarantees the principal and interest of the Kanawha and Michigan first mortgage bonds, $2,469,000, and, jointly with the Hocking Valley, the Kanawha and Hocking Valley Coal and Coke Company's bonds, $3,000,000, and those of the Continental Coal Company, $2,750,000.

Seven of the ten directors are also directors of the Hocking Valley, the remaining three being Decatur Axtell, vice-president of the Chesapeake and Ohio Railroad; F. D. Underwood, president of the Erie Railroad; and Horace Andrews, largely interested in street railways in Cleveland, Ohio. In 1906 the chairman of the board was Decatur Axtell; the president is N. Monsarrat, president of the Hocking Valley.

Capitalization.

On June 30th, 1906, the capital account stood as follows:

Common stock (outstanding)	$5,852,100
Preferred stock	3,708,000
Total stock	$9,560,100
Bonded debt	9,680,182
Nominal capital	$19,240,282
Securities held	2,569,766
Approx. net capitalization	$16,670,516

Approx. net capital. per mile..........	$37,800
Average miles operated...............	441
Net earnings on net capitalization......	6.8%
Stock on net capitalization.............	57%
Fixed charges on total net income......	36%
Factor of Safety.....................	74%

The company formerly held a controlling interest in the Kanawha and Michigan Railroad, but with the plan for consolidating the latter with the Hocking Valley, this stock turned up in the treasury of the latter road.

The capitalization of the road has not increased in a number of years.

Of the gross earnings, coal operations produce considerably more than one-half of the total, other freight earnings about one-quarter, and passenger earnings a half of the latter. The mileage of the road has increased only through a slight addition of trackage rights, and meanwhile, the earnings per mile have risen from $6,500 to $9,233, an increase of nearly 50%.

Maintenance.

The maintenance has apparently been very liberal, the various items through a series of years standing as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	1,117,594	$930	$1,194	$2,124
1901–2.......	1,262,552	1,004	1,490	2,494
1902–3.......	1,457,388	1,241	1,389	2,630
1903–4.......	1,420,627	1,199	1,462	2,661
1904–5.......	1,527,034	1,410	1,598	3,008
1905–6.......	1,755,351	1,566	1,691	3,257
Average	1,423,424	$1,225	$ 1,471	$2,696
Hocking Val..	2,778,318	1,739	3,131	4,870
Tol. St. L. & W	1,046,139	996	959	1,955

In addition to the $1,436,000 appropriated in 1906 for maintenance, a further sum of $312,809 was set aside for additions and improvements.

Surplus Earnings.

The surplus earnings shown since 1901 were as follows:

1900-1	$210,356
1901-2	139,605
1902-3	325,425
1903-4	431,300
1904-5	368,402
1905-6	553,926

Dividends on the preferred were paid from 1890 to 1896, and on the common from 1891 to 1893, when they were suspended, and no dividends have been paid since.

The surplus shown for 1906, including appropriations for additions was equivalent to 5% on the preferred, and 6.3% on the common stock. The net surplus, after charging off these sums, would have paid the 4% preferred dividends, and left a small margin for the common. The Hocking Valley's equity in the undistributed earnings, after charging off improvements, amounted in 1906 to about $240,000.

The balance sheet for 1906 showed that the company was in need of working capital. "Working assets" amounted to $898,725, the working liabilities to $1,258,100, leaving a debit balance of $359,375.

TOLEDO, ST. LOUIS AND WESTERN RAILROAD.

The Toledo, St. Louis and Western—the "Clover Leaf" as it is more familiarly known—operates a single-track road from Toledo to St. Louis in an almost direct line. It does not touch any of the larger points such as Indianapolis, and is dependent chiefly for its prosperity on its traffic arrangements with the Grand Trunk Railway. With the latter it jointly owns the Detroit and Toledo Shore Line Company, which gives the Clover Leaf direct access to Detroit, and practically increases its length by sixty miles.

The entire amount of stock is lodged with a voting trust consisting of F. P. Olcott, Thomas H. Hubbard and William A. Read, who have power to sell the stock subject to the approval of the majority of the amount of each class of trust certificates issued against the stock. The road has been reported sold first to the Vanderbilts and then to the Erie; then in connection with the contemplated reorganization of the Cincinnati, Hamilton and Dayton.

The road is a reorganization in 1900 of the Toledo, St. Louis and Kansas City, which property was sold under foreclosure in that year. The latter in turn was a reorganization in 1886 of the Toledo, Cincinnati and St. Louis which went into the hands of a receiver in 1893 after default of its interest payments. The line operates directly 451 miles of road. The Detroit and Toledo Shore line, owned jointly with the Grand Trunk, is not included in its operations. The Clover Leaf is sometimes classed as one of the roads of the "Hawley Group," and its ownership is very much the same as that of the Minneapolis and St. Louis, the Colorado Southern, etc.

The directorate includes William A. Read, chairman, of W. A. Read and Company, bankers, New York; also a director in the Chicago Great Western, the Chicago, Indianapolis and Louis-

ville, the Interborough, etc.; Theodore P. Shonts, president and general manager, also a director in the Iowa Central and chairman of the Panama Canal Commission; Thomas H. Hubbard, vice-president, also a director in the Wabash, vice-president of the Chattanooga Southern, president of the Guatemala Central, chairman of the board of the International Banking Corporation, etc.; Edwin Hawley, president of the Minneapolis and St. Louis, etc.; Henry E. Huntington, largely interested in traction syndicates in southern California, also a director in the Minneapolis and St. Louis, Iowa Central, etc.; John Crosby Brown, formerly president of the Newburg, Dutchess and Connecticut recently absorbed by the New Haven road, and up to 1906 a director in the Wisconsin Central; Hugo Blumenthal, a director of the United Copper Company; John J. Emery, vice-president of the Dayton and Michigan, a director in the American Light and Traction Company, Colorado Southern, etc.; C. S. W. Packard, of Philadelphia; Charles H. Tweed, of New York, also a director in the National of Mexico; and James N. Wallace, president of the Central Trust Company, New York, also a director in the National of Mexico. Messrs. Hawley, Tweed and Huntington were formerly associated on the board of the Southern Pacific.

F. P. Olcott, who with Messrs. Hubbard and Read constituted the voting trust, is president of the Central Trust Company, and was formerly a director in the Clover Leaf, Colorado Southern, etc.

The so-called Hawley Group of roads is in three sections which do not join, and the most important affiliation with the Clover Leaf is with the Grand Trunk which affords it a direct outlet to the east.

Capitalization.

As of June 30th, 1906, the capital account of the road stood as follows:

Common stock	$10,000,000
Preferred stock	10,000,000
Total stock	$20,000,000
Funded Debt (net)	16,050,000
Total capital	$36,050,000

Approximate capital per mile	$79,933
Average miles operated	451
Net earnings on capital	3.3%
Stock on net capitalization	55%
Fixed Charges on Total Net Income	61%
Factor of Safety	39%

The amount of funded debt shown is after deducting $450,-000 of prior lien bonds held in the treasury.

It will be seen that the nominal capitalization is high compared with its earnings, but more than half of this capitalization is represented by stock upon which no dividends had ever been paid until 1907, when preferred dividends were begun. The Clover Leaf's figure of $79,933 per mile is higher even than that of the over-capitalized Wabash which was only $69,170 per mile.

The fact of over-capitalization is further reflected in the showing on net earnings on capital, which amounted to only 3.3% in the highly prosperous year of 1906. This compares with the figure of 3.7% for the Wabash and with a minimum of 6% or 7% on successful roads over the country generally. The proportion of Total Net Income consumed by Fixed Charges is neither low nor very high, and leaves a margin of safety of about 40% for the underlying securities.

A very notable fact about the history of the road is that its capitalization has increased but slightly since the reorganization in 1900—only about half a million dollars in bonds—while the gross earnings have more than doubled. This is a very strong showing, and were it continued, the road would soon be able comfortably to pay dividends on its preferred stock.

Aside from its ownership of a half interest in the Detroit and Toledo Shore Line, the road has no equities in other companies.

Character of Traffic.

The Clover Leaf is essentially a freight road, its freight earnings amounting to about 80% on the gross. Passengers represent only about 13%. The freight tonnage is widely distributed, the largest single item being that of anthracite coal which amounts to only 20% of the total. Farm products, agriculture, etc., divide the balance evenly.

Stability of Earnings.

The following table shows the earnings of the road for the last year of the receivership and the seven years of the reorganized company. It will be seen that the earnings fell rather sharply from the last full year of the receivership, but from 1900 they have steadily gained. The mileage has remained the same while the mileage earnings have risen from $4,302 in 1900 to $9,329 in 1906, a gain of 115%.

Year	Miles Operated	Gross Earnings	Per Mile
1897–8............	451	$2,245,974	$4,983
1898–9............	...	....	......
1899–0............	451	1,940,378	4,302
1900–1............	451	2,490,566	5,525
1901–2............	451	2,640,880	5,859
1902–3............	451	3,111,358	6,903
1903–4............	451	3,341,648	7,414
1904–5............	451	3,785,165	8,398
1905–6............	451	4,205,051	9,329

Maintenance.

It will be seen from the following table that the traffic density has very nearly doubled since 1901, and about the same is true of the gross earnings from the same year. Obviously therefore the road was receiving about the same average rates as in 1901. Maintenance charges have shown as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	773,934	$803	$710	$1,513
1901–2.......	793,538	807	757	1,564
1902–3.......	1,024,212	982	1,010	1,992
1903–4.......	1,000,405	1,016	981	1,997
1904–5.......	1,189,109	1,135	1,057	2,192
1905–6.......	1,495,636	1,237	1,237	2,474
Average	1,046,139	$996	$959	$1,955
Wabash......	880,032	1,332	1,370	2,702
Lake E. & West	592,307	999	733	1,732
Tol. & O. Cen.	1,423,424	1,225	1,471	2,696
Vandalia*....	910,426	1,184	1,693	2,877

* Average for 1904 and 1905.

It will be seen that maintenance of way has risen a little over 50%, and maintenance of equipment about 70%. Compared with other roads in the same territory, it will be seen that the

Clover Leaf's maintenance charges have averaged considerably lower. The average traffic density of the Wabash, for example, is considerably less for the six years under view, while its maintenance charges have averaged $650 per mile higher. Similarly, Lake Erie and Western, with only a little more than half the traffic density has spent nearly as much in these six years for the upkeep of its road. Compared with the Toledo and Ohio Central, the maintenance standard has been about the same; but compared with the Vandalia for the two years that the consolidated Vandalia has been in operation, it will be seen that the Clover Leaf's standard was more than $500 per mile lower. Gauging the Clover Leaf therefore with its competitors, its expenditures for maintenance have not been excessive.

Aside from its maintenance charges the Clover Leaf has not made any specific appropriations for improvements from earnings, as is the general practice of prosperous lines.

Surplus Earnings.

The surplus shown on the basis of the maintenance charges noted above have been as follows for the six years:

Year	Surplus	Per cent. Earned on Preferred	Average Price Preferred
1900–1	$82,555	.8	34
1901–2	55,690	.5	44
1902–3	171,639	1.7	36
1903–4	223,944	2.2	54
1904–5	238,976	2.3	58
1905–6	490,573	4.7	52

The gain in surplus in the six years under view has amounted to nearly 500% and the surplus in 1906 was sufficient to pay the full 4% dividend on the preferred. This was after more liberal maintenance by nearly $300 per mile than in any previous year, but it is to be noted that in this same year of 1906, the traffic density increased nearly 25%, while at the same time maintenance charges increased only about 15%.

The Balance Sheet.

Excluding materials and supplies, the balance sheet at the close of the fiscal year of 1906 showed:

Current assets	$759,927
Current liabilities	720,120
Leaving a working balance of	$39,807

There was cash in hand to the amount of $221,475, and the surplus to credit of profit and loss was $1,178,765.

Investment Value.

The preferred stock of the Clover Leaf is entitled to non-cumulative dividends of 4%. The provision as to the common is that after the 4% has been paid on the preferred, any further dividends for that year shall go to the common stock.

In March, 1907, an initial semi-annual dividend of 2% was declared, with fair prospects of a continuance of this dividend should the business of the road continue equally favorable. On this basis the stock was readily worth above $50 per share and its average price in 1906 was about the latter figure.

But the investor in Clover Leaf probably thinks more of the possibility of a sale of the road to one of the larger lines and what the road might bring. Were the net earnings of 1906 (very nearly $1,200,000) capitalized on a 5% basis, this would give a valuation of very nearly $25,000,000 to the road, which after deducting $16,000,000 of bonds, would leave a valuation of nearly $9,000,000 for the $10,000,000 each of preferred and common stock. It is highly probable that a road which has shown the steady advance in earnings that the Clover Leaf has, would readily sell on this basis, and it was indeed reported that the road had been sold to the Vanderbilts for $25,000,000.

The consent of a majority of both classes of stockholders would be necessary to the sale, and the basis of the division would be necessarily determined among the shareholders themselves. In 1906 the certificates for the preferred ranged between $43 and $60 per share, and for the common between $25 and $40 per share.

Were these quotations made the basis of a division and were the road sold on the basis assumed, the preferred shareholders would receive about $56 per share, and the common about $34 per share. Whether the preferred shareholders with a fairly good prospect of full dividends on their stock would sell on this basis is quite another question. It is not improbable that the

basis of the division would be determined by the amount of common stock held by the interests holding a majority of the preferred.

Possibly it is due to the peculiarity which obtains that the preferred stock has not sold as high on the average as its condition and its prospects seem fairly to justify. The outside investor will probably conclude that the preferred is hardly worth less than $50 per share, and that at anything like this figure, if bought and held, it should in the course of time show a profit.

As to the common, it is a pure speculation. In 1903 it sold as low as $15 per share. In the meantime, the surplus shown has considerably more than doubled. If it could sell down to $25 per share in 1906, on any very general recession in prices it might go lower; and if on the other hand it could be run up to $40 a share as in 1906, it ought to show a handsome profit if purchased at a low figure and the road met with no unexpected reverses.

UNION PACIFIC SYSTEM

Union Pacific Railroad, Oregon Shortline, Oregon Railroad & Navigation.

From a rather formidable wreck in 1897, the Union Pacific has within a very few years become one of the richest, most aggressive and formidable of American railway companies. This has largely been due to the administrative genius revealed by its president, E. H. Harriman, who, up to the time that he became chairman of the executive committee of the reorganized company in 1898, had taken no very striking part in railway management.

The Union Pacific "system" of today combines about 5,400 miles of railroad, including the main line of the Union Pacific, extending from Kansas City and Omaha to Ogden in Utah; the Oregon Shortline and Utah Northern, the Oregon Railroad & Navigation and several subsidiaries. In addition to this, it owns what amounts practically to a controlling interest in the Southern Pacific, operating over 9,000 miles of main track; which brings up the total of what is commonly known as the "Harriman system" to an aggregate of about 15,000 miles of road. It has also a half interest in the San Pedro, Los Angeles and Salt Lake, generally known, from its builder, as "Senator Clark's road."

Beyond this, the Union Pacific has large holdings in the Northern Pacific, the Great Northern, the Chicago & Alton, New York Central, etc. It has a large block of Atchison, and still more is supposed to be held by friendly interests; and in 1906 it acquired half of the Pennsylvania Railroad's holdings in the Baltimore & Ohio; likewise, in 1906, interests friendly to the Harriman combination succeeded in obtaining a majority of the board of the Illinois Central, ousting President Fish and substituting an executive for that road presumably friendly to the Union Pacific.

If the assumption be made, though there is no public evidence for this, that the Harriman interests are dominant in Baltimore & Ohio, this brings the total of mileage controlled by these interests up to about 25,000 miles. In addition, the Southern Pacific owns

control of the Pacific Mail Steamship Company, and likewise of an important line of steamers between New Orleans and New York.

All this is the work of about eight years.

History.

The Union Pacific has had as interesting and checkered a career as any American railroad. With the discovery of gold in California and the rush of emigration to that state, the need of a transcontinental line was very soon felt; but the difficulties in building a railroad across the Rocky Mountains were tremendous, and the project was delayed for some years. The demand for such a line became acute, however, with the outbreak of the Civil War, and about 1862 bills were passed through Congress looking to the construction of the line. In 1864 the Government offered heavy subsidies to a construction company, and under the direction of Gen. Grenville M. Dodge the work of building was begun. The Union Pacific was completed through to Ogden in 1869, there joining the Central Pacific, which had been constructed eastward from San Francisco, thereby affording a through line from the Missouri River to the Pacific.

In 1880, the Kansas Pacific, running from Kansas City to Denver, and the Denver Pacific, from Denver to Cheyenne, were absorbed, and a little later the Oregon Shortline, the Utah Northern and the Oregon Railway & Navigation were added. This brought the total mileage of the system up to about 8,100 miles. The Central Branch, from Kansas City to Pueblo, was leased to the Missouri Pacific, so that the actual operated mileage of the system in 1892, was about 7,672 miles.

The subsidies granted by the Government amounted to 12,600 acres for every mile of road completed, and in addition it advanced from $16,000 to $48,000 per mile in bonds, according to the character of the country through which the road ran. Although subsequently these advances were made only a second lien on the property, and though the interest on these bonds was paid by the Government, the load was heavy and steadily increasing. An enormous debt had been piled up in scandalous fashion, and dating from about 1890 the company found itself in serious difficulties. In 1893 the road was thrown into hands of receivers, more to force a settlement with the Government, as many felt, than from actual necessity. The Government refused to lift its lien and various efforts at reorgani-

zation failed. But in 1898 the efforts of the reorganization committee were successful and the new company took possession of the road, after paying the main government obligations in full, with interest.

At the head of the new company were Jacob H. Schiff and Otto H. Kahn of the private banking firm of Kuhn, Loeb & Co.; the Gould interests were represented by George J. Gould and Winslow S. Pierce, the Standard Oil interests by James Stillman, President of the National City Bank, the Vanderbilt interests by President Marvin Hughitt, the Equitable Insurance Company by Henry B. Hyde, its President and Gen. Louis Fitzgerald.

Horace G. Burt was chosen President, Winslow S. Pierce, Chairman of the Board, and E. H. Harriman, Chairman of the Executive Committee. Mr. Harriman very soon became the dominating spirit of the road; the new management met the returning tide of prosperity with prompt energy, and very soon the income of the company warranted the great work of reconstruction which was begun in 1899. Although this involved the rebuilding of but a comparatively short portion of the line, it required something like $20,000,000 before it was completed.

The chief part of this reconstruction was the straightening out and levelling of the line through the mountains, with the elimination of heavy curves and grades. There is a current impression that the Union Pacific had been built in a cork-screw fashion in the endeavor to increase the subsidies as largely as possible. It is of interest therefore, to know that out of more than a thousand miles of main line the reconstruction involved only about thirty, and both President Harriman and his chief engineer, Mr. Berry, paid high tribute to the resource and skill with which Gen. Dodge had met and overcome the almost insuperable difficulties which faced him. Moreover, in the work of rebuilding, the engineer followed more or less the original line as laid out by Gen. Dodge, portions of which he had been compelled to abandon on account of the enormous expenditure involved.

The effect of rebuilding was to reduce the gradient to a maximum of 41 feet per mile, and to provide the Union Pacific with the most feasible route through that portion of the country which could be found. Subsequently the same aggressive policy of reconstruction was applied to the Central Pacific line extending from Ogden to San Francisco. This work required among other things the building of the celebrated Lucin cut-off, carrying the road on piling

30 miles across an arm of the Great Salt Lake, one of the most remarkable engineering feats in American railroading.

Of the old Union Pacific system about 5,800 miles were finally acquired by the new company, including eventually the Oregon Shortline, the Oregon Railroad & Navigation, etc., affording a through line from Kansas City and Omaha to Portland, Oregon. The other portions of the system, the Denver & Gulf, the Leadville & Gunnison, etc., were left to be subsequently reorganized as the Colorado & Southern. Later some portions of the road southward from the Salt Lake were sold to the San Pedro road, partly in return for a half interest in that property, leaving a total of about 5,400 miles.

By 1901 the Union Pacific determined upon the purchase of the Central Pacific, then owned by the Southern Pacific, or failing that, the construction of a new line from Ogden to San Francisco. The death of Mr. Huntington, the controlling spirit of the Southern Pacific, left the way open for the purchase of practically a controlling interest in that road and the construction of a new line was abandoned. The acquisition of the Southern Pacific, together with a half interest in the San Pedro line gave the Union Pacific practical monopoly over an enormous territory and this domination was accentuated by the purchase, as it is generally understood, of so large a block of Atchison stock that no rival interests could readily obtain a controlling interest in that road.

In 1901 it was announced that Hill-Morgan interests, controlling the Great Northern and Northern Pacific, had purchased a majority interest in the Burlington. As the Burlington came in direct competition with the Union Pacific, this was accounted an invasion of the Union Pacific's territory; the Harriman interests retaliated by endeavoring to secure control of the Northern Pacific. They succeeded in obtaining a clear majority of the stock of that road but not of the common, and were defeated by a proviso in the Northern Pacific's articles that the preferred stock might at any time be retired at par. This the Hill-Morgan interests determined to do, at the same time making enormous purchases of stock in the market. The result of this was the Stock Exchange panic of 1901, when Northern Pacific shares rose as high as $800 and $1,000.

In the subsequent formation of the Northern Securities Company, the Union Pacific's shares were deposited along with the others and when this huge combination was dissolved by order of the courts, the Union Pacific received back, not its original North-

ern Pacific shares, but a pro rata of its Northern Securities holdings in shares of the Great Northern as well as the Northern Pacific. Owing to the tremendous rise in the value of these shares the Union Pacific's net profits from this transaction, taking what shares remained unsold on June 30th, 1906, at the then prevailing prices, and assuming that the balance had been sold at something like the same figures, were in the neighborhood of from seventy to eighty million dollars.

This immense sum, combined with the equally heavy rise in the Southern Pacific shares and in its own earnings, put the Union Pacific in a position of almost unparalleled financial strength, leaving it at the close of the fiscal year of 1906 with the largest cash surplus in its treasury ever shown by any railroad in the world.

The territory served by the Union Pacific lines has more than shared in the general recovery of business from the period of 1893 and 1896, Colorado and other states being especially benefited by the development of the gold mining industry which has taken place in this period. Equally notable have been the results on the application of more scientific methods to agriculture, the introduction of top-soiling on the Western plains and irrigation into the more rainless districts. The result of this has been to place these Western states in a position of far greater financial solidity than they ever before enjoyed.

Ownership.

For some time after the reorganization, the Union Pacific was familiarly known as the Kuhn-Loeb road, but with the increased ascendency of Mr. Harriman in its affairs, this distinction has been dropped and Mr. Harriman is understood, practically speaking, to be in almost absolute control of its affairs. Jacob H. Schiff, head of Kuhn, Loeb & Co., and Otto H. Kahn, his partner, have retired from the directorate of the Union Pacific as they have from the directorate of all other roads, but without, it is understood, relinquishing their large interests in Union Pacific.

The determination of the Gould lines to construct the Western Pacific brought about a rupture between the Gould and Harriman interests, with the consequent retirement of the Gould representatives from the board.

At the close of the fiscal year 1906 the Union Pacific's directorate was made up as follows:

E. H. Harriman, president; Wm. D. Cornish, vice-president; Robert S. Lovett, counsel; A. J. Earling, pres. of the Milwaukee & St. Paul; H. H. Rogers, one of the three controlling directors of that road; Wm. G. Rockefeller, son of Wm. Rockefeller, and James Stillman, pres. of the National City Bank, representing the Standard Oil interests; Chas. A. Peabody, pres. of the Mutual Life Insurance Co. and attorney for the Astor estate, also associated with Mr. Harriman in affairs of the Illinois Central; Henry C. Frick, a director in and understood to be one of the controlling spirits of the Atchison; also interested in Reading, Norfolk & Western, etc.; Robert Goelet, who also sided with Mr. Harriman in the Illinois Central fight; Marvin Hughitt, President of the North Western; David Willcox, former president of the Delaware & Hudson; Oliver Ames, Boston; P. A. Valentine, Chicago, and Joseph F. Smith, Salt Lake City, one of the heads of the Mormon Church.

The executive committee was made up of Messrs. Harriman, Frick, Stillman, Hughitt and Lovett, the most notable change during the year being the entry of Mr. H. C. Frick into this controlling committee. It was this executive committee which suddenly jumped the Union Pacific's dividend from 6% to 10% in August, 1906.

The Union Pacific reports the fourth largest number of stockholders of any road in America, the three preceding being in order, the Pennsylvania, the Canadian Pacific and the Atchison. In 1905 the number of record was 14,256.

As the Union Pacific owns practically all of the stock of the Oregon Shortline and the Oregon Railroad & Navigation, the directorate of these two companies is almost the same as that of the parent road. The executive committee of the Oregon Shortline is made up of President Harriman, Vice-President Wm. D. Cornish, R. S. Lovett, counsel, Oliver Ames, W. V. S. Thorne and P. A. Valentine.

The executive committee of the Oregon Railroad & Navigation is made up of Messrs. Harriman, Cornish, Lovett, Wm. L. Bull, former President of the Wisconsin Central; Maxwell Evarts, attorney for Union Pacific, and William Mahl, of New York, comptroller of the Union Pacific lines.

Affiliations.

Despite its large holdings in the Northern Pacific and Great Northern, the Union Pacific has no representatives on the boards

of these two roads. Neither has it any direct representative on the Atchison, but H. H. Rogers is a member of the Atchison executive committee and H. C. Frick is also a director. Victor Morawetz, the chairman of the executive committee, is also a director in the Norfolk & Western with Mr. Frick.

Mr. Harriman's success in ousting Stuyvesant Fish from the presidency of the Illinois Central was taken to mean that thenceforth the Harriman interests would more or less dominate this road as well. Three of the Illinois Central directors, Chas. A. Peabody, President of the Mutual Life Insurance Co. and now very closely associated with Mr. Harriman, Robert W. Goelet and Mr. Harriman, are also on the Union Pacific Board, and enough of the other directors sided with Mr. Harriman to elect a Harriman man president of the road. The Illinois Central joins the Union Pacific at Omaha, affording a fairly direct through line to Chicago, and it likewise meets the lines of the Southern Pacific at New Orleans in a very convenient way, and control of the road amply compensates for the loss of the Chicago & Alton to the Rock Island.

The Union Pacific owns about one-quarter of the stock of the Chicago & Alton and up to 1906 its representatives were in control of that road and Mr. Harriman was chairman of the executive committee. In this year control of the Alton definitely passed to the Rock Island interests.

The Union Pacific works in close association with both the St. Paul and Northwestern and four of the Union Pacific directors are on the Northwestern board, including Messrs. Frick, Stillman, Ames and Hughitt.

Aside from the directorates indicated, Mr. Harriman is on the Erie board and a member of its executive committee. Mr. Harriman is likewise President of the Pacific Mail, and the Union Pacific, through its ownership of the Southern Pacific, dominates the affairs of that company, operating a large line of steamers from San Francisco to Panama and to the Orient. With the opening of the Panama Canal, it is probable that the Pacific Mail, in conjunction with the Southern Pacific's steamship line on the Atlantic, will take a prominent part in transportation via that route.

Edward H. Harriman, president, was born on Long Island in 1848 and became a broker on the New York Stock Exchange; was earliest interested in the Sodus Point Railroad, sold in 1884 to the Pennsylvania; was made a director in the Illinois Central in 1883 and Vice-President in 1887, and in the absence of President Fish

was for a time acting president. For a time a small road bought for the Illinois Central was operated in his name personally; he was a member of the first board of the reorganized Union Pacific Railroad and made chairman of the executive committee May 23rd, 1898, serving continuously since; was for a brief period in 1889 president of the reorganized Chicago & Alton, and subsequently for several years chairman of the executive committee of the Kansas City Southern; he became president of the Southern Pacific in 1902 and of the Union Pacific in 1904. He is understood to be largely interested in the St. Joseph & Grand Island, is a director of the Wells Fargo Express Co. and practically in control; also director in the Western Union Telegraph Co., etc., etc.

Capitalization.

Practically all the stock of the Oregon Shortline and the Oregon Railroad & Navigation have been exchanged for Union Pacific shares, so that in all save name, the three companies are one and are so treated in the reports of the road.

Disregarding the stocks of the two subsidiary companies held in the Union Pacific's treasury, the capitalization of the system June 30, 1906, stood as follows:

Common stock	$195,446,900
Preferred stock	99,544,100
Auxiliary Cos	38,080
Total stock	$295,029,080
Funded debt, Union Pacific	100,581,000
Oregon Shortline, etc.	79,472,000
Oregon RR. & Nav.	21,479,000
Total capital	$496,561,080
Securities held	96,781,806
Approx. net capital	$399,779,274
Approximate net capital. per mile	$73,992
Average miles operated	5,403
Net earnings on net capital	8%
Stock on net capitalization	73%
Fixed charges on total net income	33%
Factor of safety	67%

It should be understood that in the makeup of the above tabulation, the value of the securities held is taken at their book cost and not at their market valuation. The latter was above $200,-000,000, so that if the market value of these securities were deducted from the gross capitalization of the road, this would bring the approximate net capital down to below $300,000,000, instead of $400,000,000. In other words, it would reduce the estimated capitalization per mile by a full 25%.

Still further, the books of the Union Pacific at the close of the fiscal year of 1906 showed cash and demand loans to the amount of $55,000,000, payments on account of the San Pedro line of $17,-300,000, and other advances which would easily reduce the net capitalization of the Union Pacific (leaving ample working funds) to not much more than $200,000,000.

For the purpose of comparison with other roads, therefore, the estimate of capital per mile for the Union Pacific would be less than $50,000. This would compare with $59,512 for the Northern Pacific, something like $42,362 for the Great Northern, $28,613 for the Canadian Pacific, $58,887 for the Atchison, and $64,426 for the Southern Pacific.

Nominally, on the estimated capitalization shown above, the net earnings for 1906 showed 8%. But if the actual net capital were figured at say $250,000,000, the net earnings for 1906 were above 12.5%. This figure would then compare with 9.6% for the Northern Pacific, about 10.1% for the Great Northern, 9.4% for the Canadian Pacific, 5.9% for the Atchison and 6.6% for the Southern Pacific. It will be seen, therefore, that, mainly in consequence of its speculative adventure in the stocks of other roads, especially the Southern Pacific and Northern Pacific, the actual net capitalization of the Union Pacific is lower than that of any other of the Pacific roads save the Canadian line, and for that matter lower than that of any other great railway system in the country with similar earnings.

In the same way, if we take the net capitalization at $250,-000,000, about four-fifths of this capital would be represented by stock. In other words, cash and securities would more than wipe out all the outstanding funded debt of the system. The extraordinary financial strength of the Union Pacific is further evidenced in the fact that fixed charges in 1906 consume only about 33% of the total net income, leaving a nominal factor of safety on its underlying securities of 67%.

This showing is to some extent affected by the fact that in the income for the fiscal year of 1906, the report included dividends of $2,250,000 received from the common stock of the Southern Pacific, which was not declared until after the close of the fiscal year and not payable until October 1st. There would have been no thought of thus anticipating the dividends of the Northern Pacific or any other outside company, and it is not clear why it should have been in the case of the Southern Pacific. However, the elimination of this item would reduce the total net income of the system for the year by less than 8%, so that this would affect the estimate of the factor of safety but little.

Equities Owned.

The chief outside holding of the Union Pacific is $90,000,000 par value of the common stock and $18,000,000 par value of the preferred stock of the Southern Pacific, constituting about 40% of the total stock. The Southern Pacific in 1906 showed fixed charges consuming only 50% of the total net income and after the payment of the full 7% on the preferred stock, the surplus amounted to about 10% on the $197,000,000 of common stock. This left a wide margin of safety for the preferred. The preferred is redeemable at 115 and therefore its value cannot greatly exceed this figure.

On the other hand, the road was heavily charged, as for many years previously, for maintenance, so that the surplus showing was conservative rather than otherwise. On a 5% basis, with such a showing, Southern Pacific common should be worth well around par, so that the aggregate of the Union Pacific's holdings of this stock would be worth in normal times above $110,000,000, or considerably in excess of the amount at which all the Union Pacific's securities are carried on its books. This valuation of the Union Pacific's stock would represent a profit to the Union Pacific perhaps in excess of $40,000,000 above the original cost.

The next largest of Union Pacific's holdings was $15,436,400, par value of Great Northern stock, obtained with the dissolution of the Northern Securities Company. If this stock were taken at the average price of Great Northern through 1906, before the distribution of the ore certificates, this stock would have been valued at above $45,000,000.

Similarly, if its $13,350,800 par value of the Northern Pacific were taken at the average price of that stock throughout 1906 up

to the time of its new issue of stock, this item would represent a further value of above $27,000,000.

The Union Pacific held on June 30, 1906, preferred stock in the Chicago & Alton to a par value of $10,343,100, worth in the market about three-fourths of this sum, or around $3,000,00. Other large holdings were $8,750,000 par value, representing seven-eighths of the capital stock of the Occidental & Oriental Steamship Co., $2,-400,000 par value of the Pacific Express Co., $5,000,000 par value of the Union Pacific Coal Co. (the entire issue) and bonds of other companies of a par value of $18,849,200. Taking the bonds at somewhere near par, we should then have a valuation of the Union Pacific's securities as follows:

Southern Pacific, Preferred...........	$20,000,000
Southern Pacific, Common............	90,000,000
Great Northern......................	45,000,000
Northern Pacific....................	27,000,000
Chicago & Alton....................	8,000,000
San Pedro Line, advances............	17,300,000
Other stocks (est.).................	10,000,000
Bonds..............................	18,000,000
Total	$235,300,000

These securities were carried on the books at their net cost of $96,781,806, plus $17,300,000 advanced to the San Pedro line.

During the year, the Union Pacific sold off Great Northern, Northern Pacific and Northern Securities stock of an approximate market valuation (price obtained not stated) of between $60,000,000 and $70,000,000. As the entire cost of the Northern Pacific's stock, bought by the Union Pacific in 1901, could not have been very greatly in excess of this sum, the entire remaining stock, to an approximate market value of about $75,000,000, represented very nearly that much clear profit as the result of this Napoleonic speculation. Combining the profit from the purchase of the Southern Pacific with this figure, it will be seen that the Union Pacific had gained in stock ventures in excess of $100,000,000, equivalent to 50% or 60% of the entire amount of Union Pacific stock outstanding. This is railroading a la mode, and it was largely this which has made the Union Pacific financially the strongest railway organization in the United States.

In the fall of 1906 it was announced that the Union Pacific had purchased from Kuhn, Loeb & Co. about one-half of the Pennsylvania's interest in the Baltimore & Ohio, and from the Interstate Commerce Commission's investigation in the following winter, it appeared that other very heavy purchases had been made. The par value and cost of these purchases was as follows:

	Par Value.	Cost.
Illinois Central	$18,623,100	$32,618,883
Railroad Securities Co	5,313,800	8,823,144
St. Joseph & Grand Island	5,082,200	2,022,540
Fresno City Railway Company	495,650	106,410
Pacific Fruit Express Co. (10% subscription to $12,000,000 par value)		1,200,000
Atchison	10,000,000	10,395,000
Baltimore & Ohio	43,200,600	48,445,709
(10% subscription to 18,450 shares pfd. and 9,225 shares common		276,750
Chicago & Northwestern	2,572,000	5,303,673
New York Central	14,285,745	19,634,324
Northern Pacific (5% subscription to 24,916 shares capital stock)		124,580
Total cost, not including unpaid subscriptions		$128,641,018

These purchases were generally at the prevailing high prices of 1906 and in the heavy slump in security values, culminating in the stock panic of March, 1907, the Union Pacific's purchases showed, with the rest, a heavy decline in value, amounting, at the lowest prices, to approximately $25,000,000, or about 20% on the one hundred and twenty-eight millions which the stocks cost.

This was a heavy fall and revealed clearly enough the difficulties and dangers which beset the large holding companies. Their purchases may show large losses as well as large gains, but it is to be noted, as the result of these purchases, and the corresponding sale of Northern Pacific and Great Northern securities, the Union Pacific's item of "other income" would show, if taken for a full year, an increase of around two and one-half million dollars. In other words, the Union Pacific sold off high-priced stocks on which the yield was relatively low and by re-investing the money so obtained, very considerably augmented its total net income.

It is to be noted further that the prices reached in March of 1907 were really very low prices, as compared with the yield, since in general a standard list of railway stocks showed a higher interest

return at these prices than at any time since the panic year of '93, and were actually at the same level as at the lowest of that year. Barring, therefore, anything short of a prolonged business depression, it would appear that the loss shown on the Union Pacific's investments was largely a paper loss, and that while some of the purchases may have been at exceptionally high prices, the effect of these purchases was substantially to increase the income of the road.

The Railroad Securities Company, included in the table given above, is a holding company, owning $9,500,000 par value of Illinois Central stock, so that combining the Union Pacific's purchases, it would appear that it had control of approximately $28,000,000 of Illinois Central stock, or, roughly, about one-third of the total.

The purchase of Baltimore & Ohio stock amounted to only about 12% of the total capital stock outstanding. But this purchase was looked upon as indicating an intention on the part of the Union Pacific, or at least of the Harriman-Kuhn, Loeb interests, to form a complete transcontinental chain from the Atlantic to the Pacific. Control of the Baltimore & Ohio would of course mean a half interest in the control of the Reading, likewise the Central Railroad of New Jersey. Mr. Harriman had been a director in the Baltimore & Ohio since it was taken from the hands of the receivers, and a member of the expenditures committee, which laid out $30,000,000 in the rebuilding of the road. It was moreover noted that the Baltimore & Ohio closely parallels a large part of the eastern Gould lines, the Western Maryland-Wheeling & Lake Erie-Wabash system, and that it was precisely with the Gould lines, on account of the building of the Western Pacific, parallelling the Central Pacific, that the Harriman lines found themselves most at war. If the Union Pacific interests are able to dominate the Illinois Central, this would afford the connecting link both between the Baltimore & Ohio and the eastern terminals of both the Union Pacific and Southern Pacific. But whether or no this be the intent, there were no changes in the Baltimore & Ohio board in the ensuing annual election in 1906, and Mr. Harriman stood then as the only direct representative of the Union Pacific interest in the directorate.

All told, the Union Pacific derived from its investments in other companies and those included in the Union Pacific system a total in 1906 of about seven and one-half million dollars; or including rental of steamships, etc., over $8,000,000. This on a 4% basis would affix the value of its holdings at around $200,000,000. As a matter of fact, the Union Pacific received valuable rights

during 1905 from the Great Northern and there were other rights accruing from the Great Northern and Northern Pacific in 1906, not to speak of the Great Northern's distribution of Ore Certificates, so that the Union Pacific's income from these holdings was in reality considerably larger. Including the value of undistributed equities, the estimate of $200,000,000 as a valuation of the Union Pacific's outside securities would hold on a basis even better than 4%.

While the company's stock market speculations have been enormously successful, yet taken as a whole the interest return on the investment is hardly so large as the dividend that the Union Pacific pays on the stock issued to secure capital for the purchases. In other words, with the exception of its investment in Southern Pacific, the Union Pacific is earning much more from the capital invested in its own road than from that invested outside.

Increase of Capitalization.

The consolidation of the present Union Pacific system had been very nearly completed by 1900, so that the main changes in the capitalization through the intervening six years was due to the conversion of the $100,000,000 of convertible bonds into common stock and the addition of about $50,000,000 to the funded debt. The various items show as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1900....	$95,645,000	$98,956,400	$149,473,000	$344,074,400	$38,308,420
1906....	195,446,900	99,544,100	201,532,000	496,523,300	66,879,141

Increase over six years: Total capital, 44%; gross earnings, 74%.

By far the larger part of this increase in capital was employed in the purchase of the Southern Pacific, Northern Pacific and other stocks, so that in reality the actual increase of capital employed in the Union Pacific proper has been very slight, probably not over 15%; thus the comparison between increase of capital and increase of earnings becomes very much more notable than the table would indicate.

In 1907, the funded debt was increased by the issue of $75,000,000 4% 20-year convertible bonds, redeemable after July 1, 1912 at 102½, and convertible into common stock at any time up to July 1, 1917 at 175. Sold at below 90, this issue netted the Union Pacific about $66,000,000.

Character of Traffic.

The Union Pacific's very full reports do not itemize the average tonnage. It may be taken for granted, however, that a very considerable proportion of it is through traffic, since the average distance carried for each ton was in 1906, 410 miles and the average train load was 509 tons, both of which indicate an exceptionally long haul. The Harriman policy has not been apparently the building of a great many small feeders and the development of local traffic, with concentration upon main track.

The obvious result of this policy would be to make the Union Pacific very much less dependent for its prosperity upon local conditions. In view of the frequent criticisms of this policy, it is to be noted that there is perhaps no section of the country more subject to great ups and downs than the western plains which the Union Pacific traverses. While this territory has been marvelously prosperous in recent years, it has not always been so and similar periods of adversity may come again. Buttressed with its long haul traffic, the Union Pacific is in a much stronger position to meet such a contingency than it otherwise might be.

Passenger traffic in 1906 represented a little under 20% of the gross traffic receipts. The gross earnings from the water lines were $4,402,400.

Stability of Earnings.

By 1891, the gross earnings of the Union Pacific system, covering then nearly 7,700 miles of road, reached a gross of $44,000,000. After the appointment of the receivers in '93, the system was practically dismembered so that comparisons for the succeeding years are not available. What the slump of '93 meant, however, is sufficiently evident in the following comparisons of the earnings of the original Union Pacific road. This was the 1,800 miles of main track, extending from Omaha to Ogden, with some branches, and was the main line of the system. With a very nearly constant mileage, the earnings from 1893 up to the reorganization, showed as follows:

1893	$19,743,748
1894	15,263,912
1895	14,958,537
1896	14,083,348
1897	14,944,477
1898	17,384,017

Since the reorganization the earnings of the system, including at first the Oregon Short Line and eventually the Oregon Railroad & Navigation, have been as follows (Rail earnings only):

Year	Miles Operated	Gross Earnings (Not including water lines)	Per Mile
1898–9............	4,883	$33,647,032	$6,890
1899–0............	5,427	38,308,420	5,058
1900–1............	5,543	42,688,835	7,701
1901–2............	5,711	46,639,629	8,166
1902–3............	5,762	50,216,248	8,715
1903–4............	5,353	54,264,878	10,137
1904–5............	5,358	58,756,845	10,967
1905–6............	5,403	66,879,141	12,376

The average rates received by the Union Pacific in 1906 were considerably higher than those obtained by the Northern Pacific and Great Northern, lower than those of the Southern Pacific, and about the same as the Atchison. For the several roads, the average rates were:

Southern Pacific........................	1.02	cents
Atchison	.93	"
Union Pacific..........................	.91	"
Northern Pacific........................	.83	"
Great Northern.........................	.79	"
Canadian Pacific........................	.74	"

It will be seen that the average rate on the Great Northern, for example, was 13% less than the Union Pacific, or actually .12c. less. This average rate on the Union Pacific's total freight traffic for the year would mean a difference in its gross receipts of over $6,000,000. Supposing the traffic of the two roads more or less equivalent, this fact may be read in two ways, either that if less prosperous times were to force a reduction in freight rates, the Great Northern is nearer to bedrock, or that the Union Pacific could possibly better stand a considerable reduction than its Northern rival.

It is to be noted that the Union Pacific's earnings per mile since 1900, since which time the mileage has but little changed, have risen steadily and rapidly, reaching in 1906 the high figure of over $12,000 per mile. This is more than double 1900, the first year of the operations of the system as it stood in 1906. This is a very remarkable showing.

Maintenance.

The following table shows the amounts appropriated each year for the up-keep of the road in comparison with the average of the five other Pacific lines, and also the Burlington. The traffic density shown for the first year, 1901, is as to *all* freight carried, the remaining years show revenue freight only.

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	*527,806	$975	$805	$1,780
1901–2.......	608,548	1,041	800	1,841
1902–3.......	650,899	918	1,045	1,963
1903–4.......	757,176	1,213	1,142	2,355
1904–5.......	899,992	1,370	1,285	2,655
1905–6.......	990,815	1,519	1,222	2,741
Average....	739,206	$1,173	$1,049	$2,222

* All freight.
Miles extra track, 168.

Great Nor.....	650,321	960	594	1,554
Nor. Pac.....	729,102	1,300	791	2,091
Atchison......	557,005	1,123	1,113	2,236
Burlington....	580,024	1,104	1,032	2,136
Can. Pac.....	458,589	850	1,002	1,852
So. Pac......	594,898	1,446	1,246	2,692

It is doubtful if six other roads, occupying the same general territory, and with more or less of the same character of traffic could be found which would show so wide a discrepancy in maintenance charges. The average of the six years for the Union Pacific is nearly $700 per mile annually above that of the Great Northern and about $470 below that of the Southern Pacific. With an average traffic density nearly one-third less, the annual appropriations of the Atchison and the Burlington were about the same as the Union Pacific. It is very well known that both Burlington and Atchison have for a number of years charged maintenance very heavily, while the Great Northern's charges have been comparatively light.

Comparisons for the year of 1906 of these roads are of especial interest, and the following table shows the same items for each road for this year:

	Traffic Density	Way	Equipment	Total
No. Pac......	971,344	$1,387	$1,098	$2,485
Gt. Nor......	835,342	1,092	816	1,908
Atchison......	693,873	1,479	1,271	2,750
Burlington....	713,568	1,271	1,533	2,804
So. Pac.......	678,554	1,775	1,554	3,329
Union Pac....	990,815	1,519	1,222	2,741

It will be seen that in 1906 the roads, in respect to maintenance, preserved much the same order as in the averages for six years; in other words that each road had a distinct *policy* in this regard and followed it without change. Thus, traffic density considered, the Southern Pacific's, the Atchison's and the Burlington's charges were very high while the Great Northern's again were comparatively low. Had, for example, the Union Pacific kept its books in the same fashion as the Great Northern, its maintenance charges would have been perhaps $500 per mile less than they were, which on 5,400 miles of rail would have meant a difference in the surplus of around $2,700,000. Compared with the Burlington and the Atchison, the difference would have been the other way, though not to the same extent.

It is evident from the above, that the Union Pacific's maintenance charges were liberal and that its astonishing surplus was not obtained by skimping the items of renovation.

Improvements from Earnings.

In addition to these liberal charges, the Union Pacific has followed the general example of successful railways in setting aside considerable sums annually for betterments. These appropriations have been as follows:

1900-1	$1,500,000
1901-2	2,000,000
1902-3	2,000,000
1903-4	3,500,000
1904-5	4,479,165
1905-6	4,200,000
Renewal Fund charged to Operating Expenses	2,206,610
Total	$19,885,775

This aggregate of nearly $20,000,000 compares with similar appropriations of $15,130,510 of the Great Northern, $20,102,165 by the Northern Pacific, $15,859,500 by the Atchison, none whatever by the Burlington.

Surplus Earnings.

After the liberal maintenance charges shown above, but before deducting special appropriations for betterments the Union Pacific's surplus from 1901 has shown as follows:

Year	Surplus	Dividends Paid on Preferred	Per cent. Earned on Common	Dividends Paid on Common	Average Price (Calendar year)
1900–1....	$13,157,780	3½	9.6		103
1901–2....	14,501,594	4	10.1	3½	103
1902–3....	15,276,150	4	10.4	4	82
1903–4....	16,596,548	4	11.6	4	92
1904–5....	22,785,053	4	11.3	4½	129
1905–6....	33,971,283	4	15.3	8	167

The surplus for 1906 includes $2,206,680 set aside as a reserve fund for renewals (included in operating expenses) and likewise the proceeds from the 2½% dividend on the Southern Pacific common stock amounting to $2,250,000, which, however, was not declared or paid until after the close of the fiscal year. Attention to this latter bit of unusual bookkeeping has already been drawn.

Apropos of the very unexpected increase of the Union Pacific's dividend in 1906 from a 6% to a 10% rate, it is of interest to note that in 1905 the surplus earned on the common stock amounted to about 11%, while the dividend for the fiscal year was 4½%, while in 1906, on a showing of about 15% on the common stock, the dividend for the year was actually 8%, and for the latter half of the year at the rate of 10%.

Dividend Record.

Dividends on the old Union Pacific Company were a rather uncertain affair, though 6% was paid in 1880 and 7% in 1882 and 1883. However with 1884, they ceased. The payments by the reorganized company have been as follows:

Year.	Common. %	Preferred. %
1898	..	1½
1899	..	3½
1900	3½	4
1901-4	4	4
1905	4½	4
1906	8	4

The Balance Sheet.

The financial status of the Union Pacific at the close of the fiscal year 1906 was undoubtedly the most remarkable ever shown by an American railway, and for that matter any other. There were—

Current assets amounting to	$64,013,012
Current liabilities	20,419,100
Leaving credit balance of	$43,593,912

In addition to the above there were payments on account of the San Pedro line of $17,300,000, advances for new construction $22,836,611, purchases of ocean steamships $5,126,796. None of these items contributed to the revenues for the year.

The actual amount of assets was considerably over $100,000,000, offset by less than $25,000,000 of current liabilities. The figures are so enormous as almost to escape appreciation. It is quite certain that no railway in America ever before had on hand practically $55,000,000.

Investment Value.

If in 1906, the Union Pacific could have sold all its securities at market prices, cashed in its advances to other lines and called its loans—in other words, reduced itself to a plain simple railway, it would have had on hand sufficient to retire all its outstanding bonds, and its preferred stock, and had left ample working capital. This would have left it with 5,400 miles of track, earning gross upwards of $12,000 per mile and capitalized at a little less than $200,000,000. It would have had, above operating expenses and taxes, including liberal maintenance, $30,000,000, or sufficient to pay the 10% dividend on the common stock and have left $10,000,000 for improvements and reserve. This is the simplest statement that can be made of the present financial strength of the company.

The only important new line which the Union Pacific is building is that from Portland to Seattle, affording it a Northern outlet to Puget Sound shipping where it was previously blocked. Its equity in the Southern Pacific is likely to increase in value rather than diminish, and the eight years of the reorganized company have shown management of the highest efficiency and of extraordinary foresight. To take a bankrupt road and build it up in this brief time to a position of such financial strength was not the work of chance; and while the period under view was for the West one of unparallelled prosperity, there seems small reason to suppose that a turn of tide would not be met with the same ability and foresight, but the company is in a position to retrench expenditures without crippling the efficiency of the line.

It would seem, therefore, that nothing short of a general business collapse or hostile legislation, arbitrarily reducing rates to an unprofitable point, would impair the company's ability to continue its 10% dividend. On a basis as solid as that of any railroad in the country, the stock should therefore sell at the same rate as other solid dividend stocks, which is to say, that if the prevailing yield of railway shares were 5%, the stock should average around $200. If the high money rates were to decline, and stocks sell generally on a 4% basis, Union Pacific would be worth around $250 per share.

Against this, two factors might militate somewhat. The one is that with less prosperous conditions, a 10% dividend on a stock that a few years ago was to be picked up for one-tenth of its present value, is likely to stimulate a demand for a heavy reduction in rates. The other was the manner in which the dividend of 1906 was declared. Not in long years is there to be found an instance of a railroad jumping its dividends more than 50% at a stroke. In the summer of 1906 some increase in Union Pacific's dividend was anticipated but so little was the advance to a 10% basis expected that it brought forth what might be called an international outcry of astonishment. Furthermore, in justifying this advance, the management stated that the dividend was to be considered as equivalent to 6% from the regular earnings and 4% from investments. To do this, it was needful to include the proceeds from the 5% dividend on the Southern Pacific common stock declared after the close of the fiscal year. This was quite an unusual procedure.

It was a very natural thought, and this thought very freely expressed, that a management inclined to the unexpected, as this

dividend certainly was, might equally produce the unexpected in another direction, were conditions less roseate.

It is quite possible that on account of these considerations, Union Pacific will for sometime sell rather under than over what earnings and conditions would amply justify. But this is by no means certain, on account of the tremendous financial strength of the controlling interests of the road, and the powerful influence which they exert in the general course of the market.

In the course of its rise to its present position, the Union Pacific has undergone some extraordinary fluctuations, even after its management had begun to show splendid results. It sold as low as $44 per share in 1900, rising to $133 the year following, a jump of almost 200%. In the slump of 1903 it sold down to $65 per share, even in the face of very large earnings, and in 1905 was still to be bought for $113 per share. In 1906 it sold from a low level of $139 in May to $195 in Sept., subsequently dropping to $120, on March 14, 1907. This was very near to the low level of 1905, when the dividend was raised from a 4% to a 5% basis. While this spectacular fall in price was not as heavy as in some other stocks, notably the Hill stocks, it still serves to indicate that hippodrome dividends do not necessarily make for stability of price.

Union Pacific preferred is limited to 4% and may be considered as solid a preferred stock as is to be found on the list. It sold above par in 1905, declining as low as $92 in May of 1906. It sold as low as $84 a share in 1903. Its price will obviously fluctuate, like the bond list, with the prevailing money rate.

The New Convertibles.

In May of 1907 the stockholders were offered the privilege of subscribing to $75,000,000 par value of the new 4% 20-year convertible bonds at 90, and to the extent of 25% of their holdings. The bonds are convertible at any time before July 1st, 1917, into common stock at $175 per share and are redeemable at the option of the company after July 1st, 1912 at 102½. Purchased at the subscription price of 90, the equivalent conversion price for the common stock would be 157½. This was slightly above the prevailing prices for Union Pacific at the time.

VANDALIA RAILROAD.

The Vandalia is one of the subsidiary Pennsylvania lines which carries the Pennsylvania system westward from Indianapolis, and southward from South Bend and Butler, Ind., to Vincennes and St. Louis. The present company is a new one, having been formed at the close of 1904 by the consolidation of the Terre Haute and Indianapolis, the St. Louis, Vandalia and Terre Haute, the Terre Haute and Logansport, the Logansport and Toledo, and the Indianapolis and Vincennes. It is therefore a feeder for the Panhandle and the Pennsylvania Lines west.

Through the leasing of the Terre Haute and Peoria Railroad to the Terre Haute and Indianapolis, the line gained an additional 145 miles, bringing up the total of the operated to 824.

All of the consolidated roads were small lines owned by the Pennsylvania Company, and of the merger company's stock—$14,650,000—the Pennsylvania Company owned in 1906, $11,633,-430, and the Panhandle $541,600, or more than two-thirds. The directorate is made up chiefly of Pennsylvania Company directors, and the affiliations of the Vandalia are naturally those of the Pennsylvania lines.

Capitalization.

On January 1st, 1907, the capital account stood as follows:

Common stock	$14,139,930
Stocks of merger lines	509,616
Total stock	$14,649,546
Funded Debt	14,100,000
Nominal capital	$28,749,546
Rentals cap. at 4%	9,008,050
Approx. gross capitalization	$37,757,596
Securities held	228,235
Approx. net capitalization	$37,529,361

Approx. cap. per mile....................	$45,301
Average miles operated................	828
Net earnings on net capitalization.......	5.9%
Stock on net capitalization..............	40%
Fixed charges on Total net Income......	54%
Factor of Safety.......................	46%

It will be seen that the average capitalization per mile for a road earning $10,754 per mile was not low; for 1906 the net earnings showed 5.9% on the estimated net capitalization, which is rather about the same as that of the other Pennsylvania Lines West.

The stock represented 40% of the estimated net capitalization, and the Fixed Charges consumed a little over half of the total net income, leaving an ample Factor of Safety for the obligations of the road.

The company has practically no holdings in other companies, and therefore no equities.

Traffic and Earnings.

Of the gross earnings of 1906 passenger traffic made up about 25%, of the total; and of the freight tonnage, bituminous coal was the chief item. Coal and coke combined made up about half of the gross tonnage. Farm products and animals made up 14%, lumber 9%, manufactures, 18%.

In the following table the operations of the separate roads have been grouped together to make up items for 1904, while the columns for 1905 and 1906 represent the operations of the Vandalia company.

	1904	1905	1906
Gross earnings..................	$8,261,781	$7,845,222	$8,904,859
Operating expenses and taxes....	6,443,055	6,150,052	6,931,890
Net earnings....................	1,818,725	1,695,168	1,972,968
Other income....................	289,916	34,271	81.905
Total net income................	2,108,642	1,729,439	2,054,874
Fixed charges, exclusive of taxes	857,253	743,973	994,322
Surplus.........................	1,251,389	985,465	1,060,552

The gross earnings of the combined companies for 1904 were slightly in excess of those of 1905, owing to the increased traffic due to the St. Louis Fair. The Other Income (and the surplus) shown includes $246,336 of accumulated dividends paid in that year.

Maintenance.

The maintenance charges for the combined roads for 1904 and the consolidated company for 1905 and 1906 compared as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1904.........	763,581	$1,115	$1,757	$2,872
1905.........	862,064	1,254	1,630	2,884
1906.........	1,036,588	1,501	2,021	3,522
Average	887,411	$1,290	$1,802	$3,092

In addition to the amounts thus expended, $325,000 was transferred to begin an extraordinary expenditure fund in 1905, and $400,000 was added from the surplus of 1906.

Surplus.

Before the extraordinary expenditure fund had been charged off, the surplus for the year 1905 for the new company amounted to $985,465, which was equivalent to 6.6% on the capital stock.

This enabled the company comfortably to pay a 4% dividend, create its improvement fund, and pass $96,000 to the credit of Profit and Loss. For 1906 the surplus shown was $1,060,552, equivalent to 7.2% on the capital stock; 4½% was paid in dividends.

The balance sheet at the close of 1906 showed

Current Assets........................	$3,798,462
Current Liabilities....................	1,753,738
Leaving a working balance of......	$2,044,724

The company had on hand $2,765,248 cash and the balance to credit of Profit and Loss at the close of the year was $1,147,-467; the latter figure was a slight decrease from the previous year.

Since the Pennsylvania owns two-thirds of the stock of the company, the floating supply is of no value save for the purpose of investment. On the basis of two years' showing it is easily able to pay 4½ or 5% and still set aside a nearly equivalent amount for improvements.

Forming the western end of an important system, the traffic

of the road should grow with the system, and the earnings of the latter showed an enormous gain in the years of 1905-7 in consequence of the immense improvements which have been undertaken and which are still under way.

As a solid 4% stock, with excellent prospects, placed on a 5% basis in 1907, Vandalia should readily sell at between $80 and $100 per share. It sold at the latter figure when it was first listed on the exchange in 1905, receding to $85 in the same year. The highest and lowest quotations for 1906 were $83 and $85, respectively.

At these figures, with money at 4%, the stock should present an attractive purchase, but in 1906 rates of money were very much higher, which is sufficient to account for the quotation shown.

WABASH RAILROAD.

The Wabash is the connecting link of the Gould railways between the recently acquired Western Maryland and the extensive system of southwestern railways dominated by the Missouri Pacific. The main line of the road extends from Toledo, Ohio, westward to St. Louis and Kansas City, with branching lines to Omaha and Des Moines, Ia. There is another line from Detroit through to Chicago, and from Chicago to St. Louis, and trackage rights over the Grand Trunk extend the road eastward from Windsor, Ontario, to Buffalo. Connections with the Western Maryland are established through the Wheeling and Lake Erie running eastward from Toledo, and the Wabash-Pittsburgh Terminal Railway, which carries the Gould lines into Pittsburgh.

Occupying very much the same territory as crack roads like the Lake Shore, the Michigan Central, and the Chicago and Alton, the Wabash has always occupied a distinctly secondary position. For a long period and up to very recent years it was more of a football for the stock market than a railroad, and its conduct was characterized by every form of scandal and stock jobbery which tended to bring American railroading into disrepute in former years. With the abrupt change in the Gould' policy, which came with the advent of the younger generation to power, a solid upbuilding of the road was begun. Heavily handicapped by an enormous load of debt and a form of capitalization that hindered the sale of new securities, this was not an easy task.

Under the refunding plan brought forward in 1906 these hindrances bid fair to be removed, and it may be that a new era for the Wabash has begun.

History.

The present Wabash represents the combination of the old Wabash Railroad with the St. Louis, Kansas City and Northern. The old Wabash represented the reorganization of the Toledo, Wabash and Western, which was again an amalgamation

of many small lines. After the merger of the St. Louis, Kansas City and Northern, the Company was known as the Wabash, St. Louis and Pacific, and extended from Toledo, on Lake Erie, to Kansas City and other points. In 1883 the system was leased to the Iron Mountain under an outrageous contract, subsequently surrendered, and in 1884 the road went into the hands of a receiver and stayed there for five years. In 1889 it was foreclosed and taken over by the present company, but the reorganization failed to scale down its load of debt, and under this load it dragged along in a hopeless sort of way until it was taken in hand by the newer Gould influences. The last ten years have witnessed a steady upbuilding of the property. In 1895 Joseph Ramsay, Jr., was made vice-president and general manager, and in 1901 president, continuing in that position until 1905. Under his administration the earnings per mile rose from $6,600 to $9,900, a gain of 50%, in a highly competitive territory. During all this time all of the surplus earnings were turned back into the road.

The Wabash in 1906 operated a total of 2,517 miles, of which 275 represented trackage rights from Detroit to Buffalo over the Grand Trunk Railway. In addition to this mileage, the system has in the subsidiary Wheeling and Lake Erie, 448 miles and in the new Wabash-Pittsburgh Terminal road, 60 miles more. The Wabash owns all the stock of the Wabash-Pittsburgh Terminal Company, which in turn owns a clear controlling interest in the Wheeling and Lake Erie, thus bringing the total mileage of the system up to over 3,000 miles. The completion of the West Virginia Central & Pittsburgh will connect the Wabash with the Western Maryland, so that it will have a direct outlet to seaboard, and its Western connections with the Gould system ensure it a steady traffic from the West.

Ownership.

The road has been to all intents and purposes a Gould property since the merger of 1879, and very distinctly since the reorganization of 1889. The directorate of 1906 was made up of George Jay Gould, president of the Missouri Pacific, and head of the Gould system; Edward T. Jeffery, chairman of the board, and president of the Denver and Rio Grande and of the Western Pacific; Frederic A. Delano, the new president of the Wabash; Robert C. Clowry, general manager of the Western Union

Telegraph Company, a Gould property; Edgar T. Welles, vice-president; Wells H. Blodgett, third vice-president and general counsel; Winslow S. Pierce, then president of the Western Maryland, counsel and director for various Gould properties; Robert M. Gallaway, president of the Merchants' National Bank of New York, also a director in numerous other Gould properties as well as of the Southern Railway; Thomas H. Hubbard, president of the Guatemala Central Railroad, chairman of the board of the International Banking Corporation, also a director in the competing Toledo, St. Louis and Western ("Clover Leaf"); J. J. Slocum, representing the Russell Sage Estate; John T. Terry, vice-president of the Milwaukee Trust Company, also a director in the Iron Mountain, the Texas and Pacific and other Gould properties; William B. Sanders and S. C. Reynolds.

It will be seen that the board was chiefly made up of the presidents of the Gould lines and Mr. Gould's close business associates. When Mr. Ramsay was ousted from the presidency in 1905 he attempted to contest the Gould supremacy of the road, but the result left no doubt as to the fact that the Gould interests have absolute control.

Despite the fact that the stock has never paid a dividend and has very slight prospects, it is curious to find that the road reported in 1905 1,974 shareholders, and the controlled Wheeling and Lake Erie 1,004, a fact which illustrates the propensity of the public to buy most anything that is offered it.

The Gould lines are distinctly not a part of the New York Central-Pennsylvania community of interest organization, and therefore meet with more direct competition than the other roads occupying the same territory. From this it results also that the Wabash has to depend very largely upon the Western Gould lines for its outside business; but it is to be noted that since its victory, after a hot fight, for entrance into Pittsburgh, and the possession of the Western Maryland by the Gould interests, the Wabash is in a vastly different position than at any previous time in its history, though the results of these new combinations have hardly yet begun to tell.

The removal of Mr. Ramsay from the presidency was the occasion of considerable changes. The Ramsay policy had been one of heavy expenditures for improvements and high maintenance charges, and the change from this policy is reflected in the

heavy drop of these charges for 1906. Mr. Ramsay's successor was Frederic A. Delano, elected president in October, 1905.

At the same time George Jay Gould, who had been chairman of the board of directors, retired from that position, and was succeeded by Edward T. Jeffery, long associated with the Illinois Central and now president of the Denver and Rio Grande.

Capitalization.

In 1906-7 a scheme of recapitalization was carried out, whereby $30,000,000 par value of debenture bonds were exchanged for $21,862,500 of new refunding 4% bonds and $31,620,000 of new stock, divided equally between common and preferred. The effect of this conversion, supposing it completed, was to add, net, $24,482,500 to the capitalization of the road and to add $874,500 to the fixed charges. This recapitalization plan is fully outlined under the heading of "Refunding Plan," later in this analysis. Were the capital account considered in relation to the income of the fiscal year of 1906, the result would have been as follows:

(Capital Account under Recapitalization Scheme—Income of 1906.)

Common stock—old	$38,000,000
—new	15,810,000
Preferred stock—old	24,000,000
—new	15,810,000
Total	$93,620,000
Funded Debt—Bonds	66,788,000
Notes	13,160,000
Equipment	1,349,612
New refunding	21,862,500
Total capital	$196,780,112
Rentals capitalized at 4%	18,415,750
Approximate gross capitalization	$215,195,862
Securities held	22,856,093
Approximate net capitalization	$192,339,769
Approximate net capital per mile	$76,416
Average miles operated	2,517
Net earnings on net capital	3.6%
Stock on net capitalization	48%
Fixed charges on total net income	80%
Factor of safety	20%

Actually at the close of the fiscal year of 1906, as of June 30th, the capital account, considered in relation to the income for the year, appeared as below. In this analysis the two series of debenture bonds have been included under stock, since these bonds

had voting rights in proportion of one vote for each $100 nominal value, and the interest payments thereon optional.

(Actual Capital Account as of June 30th, 1906.)

Common stock	$38,000,000
Preferred stock	24,000,000
Debenture Bonds, Series A	3,500,000
Debenture Bonds, Series B	26,500,000
Total stock and debentures	$92,000,000
Funded Debt	66,788,000
Equipment Trusts	1,349,612
Notes	13,160,000
Total capital	$173,297,612
Rentals capitalized at 4%	18,415,750
Approximate gross capital	$191,713,362
Securities. etc	22,856,093
Approximate net capital	$168,857,269
Approximate net capital per mile	$69,150
Average miles operated	2,517
Net earnings on net capitalization	3.9%
Stock on net capitalization	52%
Fixed charges on total net income	71%
Factor of Safety	29%

The rentals capitalized are the net rentals after deducting rentals received. In addition to the fixed rentals paid by the Wabash for the Grand Trunk line to Buffalo, it pays its proportion of the maintenance charges of the line. It will be seen that in the above estimate the estimated net capitalization amounts to $69,150 per mile, which on a road of the traffic of the Wabash is certainly high. It is nearly as high as that of the Lake Shore, $78,987, with a magnificent property and earnings of $25,000 per mile, and stands against an also similar estimate of $32,058 per mile for the Michigan Central, another superbly-built property.

The fact of high capitalization is further reflected in the percentage which the net earnings show on the net capitalization, the figure for the Wabash amounting to only 3.9%, as against about 10% for the Michigan Central and 12.7% for the Lake Shore. The road belongs more in the category of the Nickel Plate, which is capitalized at $94,449 per mile, but whose net earnings still showed, in 1906, 6.0% on its capitalization.

However, counting as stock the debenture bonds which only pay interest in case it is "earned"—a matter more or less at the discretion of the bookkeeping department—the total stock makes up a full half of this capitalization, and upon this entire

amount of stock, including the debentures, nothing whatever was paid in 1905 or 1906.

The real weakness of the company lies in the fact that Fixed Charges, excluding any interest on debentures, consumed in 1906, after heavily reduced maintenance charges, over 70% of the total net income, leaving a factor of safety for the underlying securities of less than 30%. The earnings, however, of a road with the east and west connections of the Wabash should be so stable that there is less danger in this low percentage than would be true of a road differently situated, and it is likely that this margin of safety will progressively increase, especially if the hopes centered on the Wabash Terminal properties are realized.

Equities Owned.

Of the $17,000,000 book value of Wabash securities owned, the chief item is the $10,000,000 of stock (all) of the Wabash-Pittsburgh Terminal Railroad, which was exchanged at par for $10,000,000 of Wabash common stock. As already noted, the treasury of the Terminal Company holds a controlling interest in the Wheeling and Lake Erie, consisting of $11,870,000, par value of the common, $847,500 of the first preferred and $6,423,800 of the second preferred. On none of this stock is any dividend being paid, and, although the earnings of this property have been rapidly expanding, the prospects of dividends were not large, since in 1905 the road earned a deficit and in 1906 but a small surplus.

In addition to this stock, but not included in the list of securities held, the Wabash had in 1906 a loan to the Terminal Company of $5,000,000.

The Wabash owns also one-fifth, or $1,000,000, par value, of Chicago and Western Indiana Railroad, over whose tracks it secures entrance into Chicago.

At the present time it cannot be said that the Wabash has any extensive equities beyond what were represented in its Other Income of $1,020,000, in 1906. The bonded debt of the Wabash-Pittsburgh Terminal Co. is very high, and the earnings on this road must be large in order to pay the Fixed Charges. In the course of time, however, the Wabash interest in this road might become valuable.

Increase of Capitalization.

The increase of capitalization since 1900 has been as follows:

Year	Common Stock	Preferred Stock	Funded Debt (Inc. Deb's.)	Total Capital	Gross Earnings
1899–0. . .	$28,000,000	$24,000,000	$83,045,000	$135,045,000	$16,440,990
1905–6. . .	38,000,000	24,000,000	109,948,000	171,948,000	25,015,378

Increase over six years: Total capital, 26%; gross earnings, 51%.

The increase in common stock was in exchange for Wabash-Pittsburgh Terminal stock, as already explained. Terminal bonds to the extent of $10,000,000 were issued in 1904 to secure additional terminals at St. Louis, Kansas City and other points. There were also issued $13,160,000 of notes, included in the above, for terminals at Pittsburgh. The entire stock and $6,6CC,-000 of first mortgage Wabash-Pittsburgh Terminal bonds and other collateral were pledged to secure these.

Character of Traffic.

Like the other Gould lines, the Wabash does not itemize its tonnage, but a very considerable part of its traffic is coal derived from the lines of the Wheeling and Lake Erie. The percentage of freight earnings to gross have increased very considerably, but passenger earnings are high, amounting to above 25% of the gross in 1906.

Surplus Earnings.

The Wabash earnings per mile reached a high point in 1892, when on 1,916 miles of road they amounted to $7,506 per mile. On about the same mileage they declined to $5,953 per mile in 1897. From this point they have risen steadily, reaching nearly $10,000 per mile in 1906. The items for eleven years are as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1895–6.	1,936	$12,807,143	$6,615
1896–7.	1,936	11,526,787	5,953
1897–8.	2,061	13,207,862	6,408
1898–9.	2,278	14,393,974	6,318
1899–0.	2,340	16,440,990	7,626
1900–1.	2,360	17,554,465	7,438
1901–2.	2,438	19,053,493	7,815
1902–3.	2,483	21,140,831	8,513
1903–4.	2,517	23,023,677	9,148
1904–5.	2,517	24,696,600	9,811
1905–6.	2,517	25,015,378	9,937

These increased earnings have been in the face of a steadily decreasing freight rate. Going back a little, the Wabash received in 1882 an average of .93c. per ton per mile, this average rate declining to .70c. in 1882, and to .55c. in 1899. For the most of roads this was a bedrock year, and other lines in the same territory, the Pennsylvania and New York Central lines notably, have since shown a considerable increase from this point. So did the Wabash for a time, the figure reaching .64c. in the St. Louis fair year of 1904, but in 1906 the rate was .54c. This was a lower average rate than in the low year of 1899. Speaking of the rate in 1906 the general traffic manager said: "These figures taken by themselves are discouraging, but are due to an increase in average haul rather than to a general decrease in rates," the average haul having increased about 10% in 1906 over 1905. President Delano remarked further: "The management is not apprehensive of a serious reduction of the present scale of rates, which in our territory is very low."

The net earnings per ton per mile in 1905 amounted to only .44 cents, owing to very heavy maintenance charges. In 1906, through a drastic cut in the maintenance appropriations, the new management showed net freight earnings of 1.5 cents per ton per mile, a fact which is reflected in the increased surplus for the year.

Maintenance.

For some years under the Ramsay management considerable sums for improvements were charged to earnings, the total appropriations rising to $3,409 per mile in 1905. In 1906, under the new management, charges for both way and equipment were very considerably reduced, the reduction amounting to $357 per mile on maintenance of way and $355 per mile for maintenance of equipment. The two together amounted to a difference of $712 per mile, which on the 2,517 miles of road operated made a difference of $1,764,000 in the operating expenses of the year. It was mainly by this means that a considerable surplus was shown in 1906, as against a deficit in 1905. The items for six years stand as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	838,539	$1,044	$1,066	$2,110
1901–2.......	798,775	1,196	1,025	2,221
1902–3.......	885,603	1,490	1,258	2,748
1903–4.......	864,394	1,463	1,380	2,843
1904–5.......	929,547	1,592	1,817	3,409
1905–6.......	963,318	1,235	1,462	2,697
Average....	880,032	$1,332	$1,370	$2,702
Nickel Plate..	2,528,054	2,042	1,966	4,008
C. C. C. & St. L	1,105,215	1,443	1,614	3,057
Vandalia......	959,668	1,254	1,630	2,884
T. St. L. & W.	1,046,149	996	959	1,955
Alton.........	1,099,515	1,371	1,273	2,644

It will be seen that the Wabash's charges, traffic density compared, have been fully up to the standard of other lines in the same territory—the Big Four, a Vanderbilt line, the Vandalia, a Pennsylvania line, and the Alton, then a Harriman line.

But this was with the heavy charges under the Ramsay management. The total appropriations for 1906 were just about up to the average appropriations for the six years, with no great increase in traffic density; and if these may be accounted somewhere near the normal maintenance, the road is in a better position now than ever before in its history.

In addition to the amounts devoted to maintenance the road has for a series of years practically turned back all its surplus into improvements, and while the amounts so appropriated have not been large for a road doing a gross business of $25,000,000 a year, they have been steadily increasing to a point where the appropriations for 1906 amounted to more than 25% of the regular appropriations for maintenance. The items since 1900 stand as follows:

1899-00..................................	$223,664
1900-1..................................	544,126
1901-2..................................	583,500
1902-3..................................	653,132
1903-4..................................	915,107
1904-5..................................	1,167,869
1905-6..................................	1,758,626
Total..........................	$5,846,024

Surplus Earnings.

The nominal surplus, under the conditions described above, have through a series of years stood as follows:

Year	Surplus	Per cent. Earned on "B" Deb.	Average Price. "B" Deb.
1900–1	$847,262	2.5	55
1901–2	994,960	3.0	78
1902–3	1,059,283	3.3	68
1903–4	1,034,398	3.2	63
1904–5 . . . . Deficit	291,503	...	75
1905–6	2,267,963	7.1	79

These items are not the nominal surplus shown by the reports of the company, but represent the amount of surplus before the improvement appropriations have been made. Thus, in 1905, the nominal deficit shown by the road was $1,459,372, and in 1906 the nominal surplus amounted to $509,332. The amount shown in the reports, added to the appropriations for improvements, constitute the surplus shown in the above table.

Debenture Interest Payments.

From 1900 to the beginning of 1904 the full 6% was paid upon the three and a half million dollars of debenture bonds, series "A," this interest charge amounting to $210,000 per year. No payments were made in the years of 1905 and 1906, and no interest has ever been paid upon the $26,500,000 of debenture bonds, series "B." The full 6% dividend on both series of debentures would call for $1,800,000, and it is apparent that had no appropriations been made for improvements in 1906, the full interest on these debentures was nominally earned. In March, 1905, a committee with Henry Evans, president of the Continental Fire Insurance Company, was formed to request the deposit of "B" debentures with a view to obtaining an adjustment of interest on these securities.

The Balance Sheet.

The balance sheet of June 30th, 1906, showed:

Current assets	$4,877,027
Current liabilities	5,671,312
Leaving a debit balance of	$794,285

The debit balance to Profit and Loss in 1905 of $515,419 was turned into a credit balance in 1906 of $248,200.

In addition to the items above included, there were loans receivable of $5,000,000, the amount loaned by the Wabash to the Wabash-Pittsburgh Terminal.

It is obvious that the road at the close of the year was in need of working capital.

Refunding Plan.

In 1906 a comprehensive scheme was adopted for the retirement of the $30,000,000 of debenture bonds, the refunding of existing bonds, notes, &c., and to provide the company with needed new capital. A new issue of 4% 50-year refunding mortgage bonds was authorized, to the amount of $200,000,000, bearing date of July 1st, 1906, and secured on all the property of the company at that date owned, or subsequently acquired from the proceeds of the sale of these bonds.

Of the new bonds $21,862,500 were set aside in exchange for the debenture bonds under the following terms:

	New Bonds.	Preferred Stock.	Common Stock.
For each $1,000 Series A..	$795	$580	$580
For each $1,000 Series B..	720	520	520

To further provide for the exchange of the debentures under the above offer an increase was authorized in the preferred stock from $24,000,000 to $40,500,000 and in the common stock from $78,000,000 to $159,500,000, or a total of $200,000,000 in all.

In January of 1907 more than 80% of the outstanding debenture bonds having been deposited, the plan was declared operative. The effect of this recapitalization scheme, supposing the conversion of the debentures complete, was, as already noted, to add $21,862,500 to the bonded indebtedness and $15,810,000 to the preferred and an equal amount to the outstanding common stock, or a net capital increase of $24,202,000.

This meant an addition of $874,500 to the interest charges, and, as shown in the capital analysis in the foregoing pages, would have increased the percentage of total net income consumed by fixed charges from 69% to 80%. Even under the increased earnings of 1907 the percentage of fixed charges was

still very high, so that the $30,000,000 of new stock given as a bonus to the holders of the debentures was of only prospective value and had very little market worth.

Investment Value.

The interest-bearing debt of the Wabash, $32,300 per mile in 1906, was, on a road with gross earnings of nearly $10,000 per mile, not excessive, and yet interest charges with taxes, &c., were sufficient to consume during the year 69% of the total net income. The balance remaining would have been sufficient to pay the full 6% on the outstanding debenture bonds, but it would have left less than 2% available for the amount of preferred stock then outstanding, $24,000,000, and nothing at all for the $38,000,000 of common stock.

As a matter of fact, as already noted, nothing was paid on either series of the debentures in either 1905 or 1906 and no interest whatever had ever been paid on the $26,500,000 of series B. Instead of these payments, $1,758,628 was turned back into the improvements of the road and the larger part of the balance was consumed by sinking fund payments, etc.

The issue of $21,862,500 of new bonds under the refunding plan brought the interest-bearing debt up to over $103,000,000, or more than $40,000 per mile, and the interest charge on this increase would have left a surplus on the income of 1906 of only about $1,150,000. Ignoring the fact that the Wabash was greatly in need of new equipment and betterments in order to provide for its increased business, this would have been equivalent to less than 3% on the amount of preferred stock as increased under the recapitalization scheme—$39,810,000. This was after a very considerable reduction in maintenance charges from the year preceding, and it is evident enough from this that no dividends on the preferred were in sight.

The addition to the interest-bearing debt brought no new capital to the road and simply exchanged a fixed charge of $874,500 for the debenture bonds upon which payment of interest was optional. The report for 1906 states: "Competing lines, great systems to the north and south of your property, have had the benefit of large and continued capital expenditures, while the Wabash Company, with its debenture mortgage as an obstruction to every important source of new capital, has

been seriously handicapped in this respect, restricted as it has been to its surplus earnings as its almost exclusive capital fund, and with this fund limited in this application by the provisions of the mortgage."

The report adds: "Our earnings now, some $10,000 per mile, ought with an intelligent expansion of our facilities, to be readily increased to even double that figure."

From this it will be seen that the Wabash is another example of the fact that over-capitalization is powerless to compel higher rates or increase earnings, and that, while this watered capital may be of some use for stock jobbing purposes, it puts an almost insurmountable obstacle in the way of the improvement of the property and the ability of a company to cope with its opportunities.

The preferred stock is entitled to 7% non-cumulative dividends. This stock sold as high as $54 per share in 1902, declining to $27 per share in 1903 and rising to $53 per share in 1906. It declined again to $22 per share in March of 1907.

Although the dividend to which this stock is limited is high, 7%, the prospect of any considerable dividend seemed as remote in 1907 as at any time during the preceding six years. As a purely speculative possibility, the stock is scarcely entitled to sell higher than many common stocks of similarly over-capitalized roads, and is scarcely to be regarded as an attractive, solid investment. It is evident, however, that its fluctuations in price are wide and that, barring a serious set-back in business, it might, if purchased somewhere around the low level of 1907, show in time a considerable profit to the speculative holder.

From the foregoing it is evident that the common stock, increased under the refunding plan to $53,810,000, is of no value whatever save for voting and for stock market purposes. It sold as low as $6½ per share in 1900, rising to $38 per share in 1902. The highest price of 1906 was $26 per share, and it declined in March of 1907 to $12½ per share. It is a curious fact that such stocks always seem to find some market at from $5 to $10 per share under almost any conditions short of a receivership. Purchased at such low figures, they often yield a large profit to the holder, but it is purely a hazard and dependent on the continuance of general conditions sufficient to offer some show of prospective value and the continued solvency of the company.

The famous contract made by Andrew Carnegie for his steel

company with the Wabash Railroad some five years previous, whereby the Gould lines secured 25% of the tonnage of the Carnegie mills, did not become operative until the close of the fiscal year of 1906. It is estimated that in and out-bound tonnage of the Homestead, Duquesne and Edgar Thomson mills is 16,000,000 tons, of which 25% would represent 4,000,000 tons. This latter amount would be equivalent to about 33% of the total tonnage for 1906. Were the Wabash Company able to handle this amount of business profitably, it is obvious that it would add very largely to the freight profits of the road. But it is to be noted that the average freight rate of the Wabash has latterly shown a tendency to decline, decreasing from .64c. in 1904 to .54c. in 1906. The report for 1906 states that the "lines of the Wabash traverse a zone of dense traffic handled on a basis of rates normally so low as absolutely to require ample and perfect facilities for economical operation, if operation is to be, and to continue to be, profitable." It is evident that the Wabash could not handle a considerable increase of traffic without proportionate capital expenditures.

WEST JERSEY AND SEASHORE RAILROAD.

The Philadelphia, Atlantic City and southern New Jersey lines of the Pennsylvania are operated under the name of the West Jersey and Seashore Railroad, with a total operated mileage of 368 miles. On January 1st, 1907, the Pennsylvania owned $4,096,900 common and $3,400 of the special guaranteed, out of a total of $9,679,450 outstanding capital stock. A majority of the board of directors are Pennsylvania men. Outside of these the direcorate of 1906 included Benjamin F. Lee, Trenton, N. J.; Josiah Wistar, of Woodbury, N. J.; William G. Nixon, of Bridgeton, N. J.; Israel G. Adams, of Atlantic City. N. J.; George S. Bacon, Millville, N. J., and Robert W. Downing, of Philadelphia. All the officers are Pennsylvania men.

Mileage operated increased from 310 in 1896 to 368 in 1906; gross earnings from $2,554,920 to $5,206,283; the surplus earnings from $263,224 to $797,648. For 1906 the road showed total net earnings of $1,276,076 and Fixed Charges were $478,428 or 40%. From the surplus earned, a dividend of 6% was paid on the common together with 6% on the $37,850, of special guaranteed stock and $274,728 was carried to credit of Profit and Loss.

The entire surplus earnings of 1901-2-3 were devoted to extraordinary expenditures; in 1904, $331,254; in 1905, $552,000. Five per cent. was paid on the common stock for a series of years. In 1906 this was increased to 6%.

Maintenance charges have not been heavy in themselves, but with a round half million dollars per year added for special improvements, this should be amply sufficient to keep the property in good condition. The dividend of 6% therefore seems a solid one, and on a 4% money basis, the stock should sell in the neighborhood of $75 per $50 share. The shares (par value $50) sold down to $55 in 1904 and rose to $72 in the first half of 1906, declining to $59 in December.

The road is capitalized for about $37,000 per mile, with gross earnings of $14,555 per mile; and should the latter increase in the

same steady fashion as they have in the past ten years, the stock of the road should rule higher than the quotations noted. Below $70 per share, and with 4% money, the stock should represent a solid investment. But it should be recalled that the larger part of its earnings are from passenger traffic, largely seaside travel, and that in a bad year, this might be expected to fall off rather heavily.

WESTERN MARYLAND RAILROAD.

The Western Maryland Railroad is intended as the eastern outlet of the Gould transcontinental line, which, when the present gap between the Western Maryland and the Wabash-Pittsburgh Terminal is filled in, and the Western Pacific completed, will stretch from the Atlantic to the Pacific and will form the only line under a single management from coast to coast, in the United States.

The Western Maryland was chartered in 1852 and the operations of the company during the first 50 years of its corporate existence were restricted to a local territory in Maryland and Southeastern Pennsylvania. It was controlled by the city of Baltimore and operated about 253 miles of road, running parallel to the Baltimore & Ohio. In 1902 the Gould interests acquired the interest of the city of Baltimore in the road and likewise the West Virginia Central & Pittsburgh Railway. The gap between these two roads was bridged by the construction of a line 54 miles long from Cumberland, Maryland, to Cherry Run, West Virginia, and tidewater terminals at Baltimore were acquired and constructed.

In 1905 the Western Maryland Tidewater, the Potomac Valley, Piedmont & Cumberland, the West Virginia Central & Pittsburgh, the Bellington & Beaver Creek and the Coal and Iron railways were merged in the larger company, and in January, 1907, the same interests obtained control of the Uniontown & Wheeling Shortline. The company has now a through line from the coal fields of West Virginia to Baltimore and in 1906 operated a total of 544 miles. An extensive scheme of betterments and double tracking is being carried out to fit the road to handle a daily increasing business.

The company owns the Davis Coal & Coke Company, controlling 110,000 acres of coal lands and to this has been added the Maryland Smokeless Coal Company with 25,000 acres of Pittsburgh gas coal, so that the present holdings of the company are, therefore, about 135,000 acres of coal lands with 23 mining plants and 823 coke ovens.

The direcorate is made up in the Gould interest and with the completion of the connecting line with the Wabash and the Wheeling & Lake Erie the property will be operated as a part of the eastern Gould system.

Capitalization.

As of June 30th, 1906, the capital account stood as follows:

Common stock	$15,685,400
Funded Debt	55,776,875
Construction Loans	3,000,000
Coal Purchase Notes	2,078,729
Total capital	$76,541,004
Rentals capitalized at 4%	4,288,345
Approximate gross capitalization	$80,829,349
Securities held	10,670,835
Approximate net capitalization	$70,158,514
Approximate net capital. per mile	$138,379
Average miles operated	507
Net earnings on net capitalization	2.5%
Stock on net capitalization	22%
Fixed charges on total net income	90%
Factor of Safety	10%

It will be seen from the above that the interest bearing debt is very large, the amount of stock small, and the estimated net capitalization was $138,379 on a road with gross earnings of less than $10,000 per mile. Net earnings on this estimate of net capitalization amounted to only 2.5% and even if the small amount of stock were eliminated, the figure would still be very low. The company is handicapped, therefore, by a very heavy burden of debt.

In 1906 fixed charges consumed 90% of the total net income.

Stability of Earnings.

The consolidated earnings on the lines now embraced in the Western Maryland have been, in the four full years since the Gould interest obtained control, as follows:

1902-3	$3,712,833
1903-4	3,633,097
1904-5	3,900,249
1905-6	4,802,094

Nearly half of the tonnage of the road in 1906 was bituminous coal, and mine products amounted altogether to 65%. Lumber, &c., made up 15% more and the balance was distributed over a variety of traffic.

The rate per ton mile was comparatively high, .73c., and the average freight earnings per train mile amounted to $2.58.

Maintenance.

Maintenance charges and traffic density for 1905 and 1906 compare as follows:

		Maintenance		
	Traffic Density.	Way.	Equipment.	Total.
1904-5	751,952	1,003	933	1,936
1905-6	977,114	981	1,174	2,155

It will be seen that these maintenance charges were not high. For example on a traffic of 1,179,659 ton miles, the Wabash spent in 1906, $1,235 per mile for way and $1,462 per mile for equipment, or a total of $2,697 per mile, the average mileage earnings being nearly the same; yet these maintenance charges were a very considerable reduction from the year preceding. It is obvious that while the Western Maryland's maintenance charges might have been adequate they concealed no surplus earnings.

Surplus.

The consolidated income account for the four full years since the Gould interests have been in control has shown a surplus as follows:

1903	$1,215,382
1904	400,442
1905	206,097
1906	251,508

The main reason for this diminishing surplus has been the diminished earnings from coal operations. In this regard, the Western Maryland has met with the same experience as the Delaware & Hudson and some other coal lines, in that its coal operations have shown a very heavy decrease. The net profits reported for the corresponding four years as follows:

1903	$1,127,746
1904	511,723
1905	428,311
1906	720,043

In 1907 there was a very material gain in total net income, but this was offset by an increase of nearly $600,000 in interest charges. In very large part these increased charges were for betterments from which the road did not derive the full benefit in 1906.

The Balance Sheet.

As of June 30th, 1906, there were current assets, excluding materials and supplies on hand of	$1,781,202
Current Liabilities of	2,105,954
Leaving a debit balance of	$324,752

The item of cash was $317,429 and the balance to credit of profit and loss was $2,039,463.

Investment Value.

The acquisition of the Western Maryland by the Gould interest was intimately associated with the entry of the Wabash into Pittsburgh. It is obvious that when the connecting link with the Pittsburgh Terminal or the Wheeling & Lake Erie is completed, the road should derive a heavily increased traffic. The value of the Western Maryland securities, therefore, is largely a speculation as to what the profits from this connection will be.

The amount of stock outstanding is small compared with the bonded debt, but the surplus earnings of 1906 were equivalent to less than 2% on the amount outstanding.

The stock was quoted as high as $44 per share in June of 1906, declining in the general slump to $15 in April of 1907. It is scarcely probable that the connection with the Wabash-Pittsburgh Terminal will be completed before perhaps 1909, and in the meantime the road will be put to large capital expenditures, charges on which will scarcely increase the present proportion of surplus to earnings. The stock would therefore be an exceedingly long pull investment; and it is to be remembered that even when the transcontinental line be completed, the actual earnings of the road will still be largely dependent upon the conditions of the coal and iron industry.

WESTERN PACIFIC RAILWAY.

The Western Pacific has under construction a line from Salt Lake City to Oakland, across the Bay from San Francisco, a distance of 930 miles. It has purchased the Alameda and San Joaquin R. R., from Stockton to Tesla, California, 30 miles, and the control of the Boca and Loyalton, from Boca to Beckwith, 56 miles.

The line, when completed, will form the western end of a Gould transcontinental line.

The president of the company is E. T. Jeffery, president of the Denver and Rio Grande R. R., and the line is being financed through the latter road. A statement of the conditions which led to the construction of the road was given in the report of the Denver and Rio Grande for 1905, and is here reproduced in extenso.

"For many years, while the line of railway between Ogden and San Francisco was uncontrolled by interests competitive with your System, your Company enjoyed a satisfactory share of the traffic to and from California, and one of the reasons moving the management, between four and five years ago, to acquire the Rio Grande Western, was the closer relationship that would be established with the San Francisco line of the Southern Pacific Company and the freer interchange that it seemed probable would result therefrom. Subsequent events were in a measure disappointing. The control of Southern Pacific by Union Pacific interests has led to unexpected restrictions on interchange, and, more especially, unlooked for impediments in the way of securing traffic in territory reached by the Southern Pacific Line.

"These considerations, in connection with the rapid development of the commercial, agricultural and industrial interests on the Pacific coast, and the increase of commerce with the Philippines, China and Japan, led the management, reluctantly, to investigate the feasibility of an independent line, in your interest, from either Salt Lake City or Ogden, to San Francisco, with

such branches and laterals as might from time to time be desirable for the development of natural resources within reasonable distance of the main stem.

"With this end in view, and with a manifest obligation before it to advance your interests, the management assisted in promoting the plans of the Western Pacific Railway Company, a corporation organized under the laws of the State of California for the purpose of building a main line of railway from San Francisco to Salt Lake City, with certain proposed branches, or laterals. Coincident with this, careful investigations and preliminary surveys were made, under the auspices of your Company, some of them by its Chief Engineer, Mr. E. J. Yard, and his assistants, for the purpose of determining the best available route. These were supplemented by the professional services of Mr. Virgil G. Bogue, an engineer of experience, acting under the general direction of your Company. These engineering efforts were successful beyond expectation, and a main line has been definitely located, which, through the Sierra Nevada range of mountains, has a maximum gradient of one per cent. (52.8 feet to the mile) in each direction, and lighter grades on both sides of the range, with satisfactory alignment throughout, and which, in general desirability and advantages, affords a route superior to any existing line to the California Coast.

"The management of the Western Pacific Railway Company co-operated and placed all their plans, surveys and information at the disposal of your officers, and, after protracted negotiations, the control of their corporation was transferred to your Company with all rights, franchises and property interests, including about thirty-eight miles of railway in operation.

"As planned, the main line between San Francisco and Salt Lake City will be substantially constructed, according to modern specifications, and will be laid with steel rails of a weight of 85 lbs. per yard. It will connect at Salt Lake City with your Rio Grande Western Railway and will use, jointly, the yards, station facilities, repair shops, etc., at that point, paying a reasonable rental therefor.

"The Western Pacific Railway Company has at present an authorized capital of $50,000,000.00, which will be immediately increased to $75,000,000. The financial arrangements for the construction of the railway were completed in the last three months of the past fiscal year by the issue and sale to responsible

bankers of $50,000,000 of First Mortgage Five Per Cent. Thirty-Year Gold Bonds of that Company. It is estimated that the proceeds of this issue will cover the cost of the main line, with terminals and necessary equipment. By request of the Bankers and with the approval of your Directors, the President of your Company has been elected President of the Western Pacific Company.

"The interest accruing upon the Western Pacific Railway Company's First Mortgage Bonds during the period of construction, to September 1st, 1908, has been provided for and will be included as a part of the cost of construction.

"As a part of the plan for financing the Western Pacific Railway, contracts, pledged by assignment to Bowling Green Trust Company, Trustee of the Mortgage, securing the bonds, and for the benefit of the holders thereof, were, on the part of The Denver & Rio Grande Railroad Company and The Rio Grande Western Railway Company, under appropriate corporate action, entered into with the Western Pacific Railway Company, the principal features of which are:

"*First.* In the event that the proceeds of the First Mortgage Bonds of the Western Pacific Railway Company shall prove insufficient to complete the main line of railway from San Francisco to Salt Lake City, with adequate terminals and terminal facilities, and equipment to the amount of $3,000,000, the Rio Grande Western Railway Company undertakes to provide sufficient funds to assure the completion, and if called upon to make any advances, it is to take Second Mortgage Bonds of the Western Pacific Railway Company, bearing interest at five per cent. per annum.

"*Second.* The Denver & Rio Grande Railroad Company and The Rio Grande Western Railway Company, jointly, undertake to semi-annually make up any deficit in the earnings and income of the Western Pacific Railway Company in the amount required to meet its operating and maintenance expenses and taxes, and, after completion of the main line, the interest upon its First Mortgage Bonds, and, after August 1, 1911, certain installments due upon its Sinking Fund. For all advances so made they are to receive the promissory notes of the Western Pacific Railway Company, payable out of its first available income. These advances on the part of The Denver & Rio Grande Railroad Company and The Rio Grande Western Railway Company will

be made only in the event and to the extent that the application of the proper available income of the Western Pacific Railway Company is insufficient to meet the above-mentioned obligations, which contingency is regarded as remote.

"*Third.* Under the contracts with the Western Pacific Railway Company, The Denver & Rio Grande Railroad Company has now received 100,000 shares of the capital stock of the Western Pacific Railway Company, and upon the increase of the capital stock, as above mentioned, will receive an additional 100,000 shares thereof. In like manner The Rio Grande Western Railway Company has received 150,000 shares, and will, upon such increase of the capital stock, receive an additional 150,000 shares.

"Upon the completion of the increase of capital stock, The Denver & Rio Grande Railroad Company and The Rio Grande Western Railway Company will, together, hold in their treasuries, 500,000 shares, of a par value of $50,000,000.00, out of a total capitalization of the Western Pacific Railway Company of 750,000 shares, of a par value of $75,000,000.00. This will place your Company in the absolute control of the Western Pacific Railway Company, without any immediate money outlay, and with only a contingent liability for the future.

"You should be advised that the entire issue of First Mortgage Bonds of the Western Pacific Railway Company may be called in, under the terms of the Mortgage, at any time prior to maturity, at 105% of face value with accrued interest.

"In further support of the financing of the Western Pacific Railway Company, and for the purpose of assuring it a fair share of transcontinental traffic, one of the contracts above mentioned, between The Denver & Rio Grande Railroad Company and The Rio Grande Western Railway Company, of the one part, and the Western Pacific Railway Company, of the other part, also includes a traffic agreement. Provision is made for a joint through line of the Denver & Rio Grande, Rio Grande Western and Western Pacific Railways. This arrangement is not only of great advantage to each of the companies participating in such joint through line, but it also assures the Western Pacific Railway Company a lucrative business and good earnings so soon as its main line is put in operation.

"The construction of the Western Pacific Railway Company's

line is now a certainty, and its completion within the next three years is confidently anticipated.

"The Pacific Coast traffic is already very large and is rapidly growing. In view of the greatly increased volume of this traffic that will be carried over your existing lines so soon as the new railway is completed, and in view also of the advantages to be derived from the development of local industries and the opening up of additional markets, the importance and value of this new artery of commerce to your System of railway and to your Utah Fuel Company can hardly be overestimated.

"Your Board of Directors have great confidence in the advantages which this transaction will bring to your property, and this confidence is the result of the most careful investigation and consideration, extending over several years, and is based upon the commercial growth of the country, and especially upon the marvelous richness and development of the great Pacific Coast territory and of the foreign trade tributary thereto.

(Signed.) E. T. JEFFERY.

New York City, August 27th, 1905."

In the report for 1906 President Jeffery states:

"Active work has been under way during the greater portion of the fiscal year, but the scarcity of labor throughout the country has retarded the work, and the amount accomplished thus far is less than was anticipated. Every effort to secure adequate forces is being made by the contractors who have undertaken the heaviest and most difficult parts of the enterprise. It is thought that later on full forces will be secured. The financial details, unfinished a year ago, were satisfactorily concluded by increasing from $50,000,000 to $75,000,000 the capital stock of the Western Pacific Company, and, pursuant to the contracts mentioned in the last report, by placing an additional 100,000 shares, or $10,000,000, in the Denver & Rio Grande Company's treasury, and 150,000 shares, or $15,000,000, in the treasury of the Rio Grande Western Company, thus giving these two Companies 500,000 shares of a par value of $50,000,000, or two-thirds of the entire capital stock.

"It may not be out of place to say that recent events in San Francisco have in nowise disturbed the confidence your directors have expressed in this new line of railway and in the advantages to be derived from the development of its local resources, and the importance and value of this new artery of commerce to the

Denver and Rio Grande System. Faith in the future of the Western Pacific Railway is just as strong as it was before the San Francisco disaster. The city will be rebuilt on finer, more attractive and better engineering plans. The great harbor will continue to hold and increase its ocean commerce; the navigable waters of the Sacramento Valley will always attract and sustain inland navigation. San Francisco as a financial center will maintain her supremacy on the Pacific Coast; trade and commerce by land and water will pay tribute in greater volume than ever before to her merchants, manufacturers and citizens generally. The soil of California is as fertile as it was before the disaster, the mines are as productive, the forests are as rich in timber, and the other various natural resources are just as extensive and valuable."

WHEELING AND LAKE ERIE.

The Wheeling & Lake Erie is a subsidiary of the Wabash and forms a connecting link between that road and the Wabash-Pittsburg Terminal, which carries the Gould lines into the Pennsylvania's stronghold. Eventually it will also be linked with the Western Maryland. In 1906 it operated 442 miles, extending from Wheeling, W. Va., to Toledo on Lake Erie, with branches to Cleveland and Zanesville. During the year it acquired the Lorain & West Virginia, under construction from Wellington north to Lorain, 30 miles, with branches five miles, and was building a cut-off known as the Sugar Creek & Northern, 22 miles. The company owns a majority of the stock of the Pittsburgh, Wheeling & Lake Erie Coal Company.

The Wheeling & Lake Erie connects with the Wabash-Pittsburg Terminal Railroad near Jewett, Ohio, and a majority of the Wheeling & Lake Erie stock is owned by the latter company, namely: $11,870,000 par value of the common, $847,500 of the first preferred, and $6,423,800 of the second preferred, or $19,141,300 out of a total of $36,980,400 of the outstanding capital stock. All of the stock of the Wabash-Pittsburg Terminal Company in turn is owned by the Wabash Railroad.

Ex-Governor Myron T. Herrick of Cleveland, Ohio, was chairman of the board in 1906 and F. A. Delano, President, the balance of the directorate being made up in the Gould interest.

In 1905 the road reported 1,004 shareholders.

Capitalization.

As of June 30th, 1906, the capitalization of the road stood as follows:

Common stock	$20,000,000
1st preferred	4,986,900
2nd preferred	11,993,500
Total	$36,980,400

Funded debt	15,000,000
Notes	8,000,000
Equipment notes	3,314,500
Total capital	$63,294,900
Rentals capitalized at 4%	2,897,500
Approximate gross capitalization	$66,192,400
Securities, etc	1,857,829
Approximate net capitalization	$64,334,571
Approximate net capital. per mile	$145,553
Average miles operated	442
Net earnings on net capital	2.4%
Stock on net capitalization	57%
Fixed charges on total net income	90%
Factor of Safety	10%

It will be seen from the above that the road is fantastically over-capitalized and this applies not merely to the stock but also to the bonds. If all of the stock were wiped out the net earnings of 1906 would have shown only about 5% on the net bonded capitalization. It will be further seen that in 1906 fixed charges consumed nearly the entire amount of net income, while in 1905 the road showed a nominal deficit. This, in the face of gross earnings of $12,000 per mile, and an operating ratio of no more than 70%, was not a good showing and indicated the heavy burden of the bonded debt.

In 1905 the issue of $35,000,000 of 50-year 4% general mortgage bonds was authorized to provide for the retirement of the existing underlying mortgage bonds and to make financial provision for the improvement and equipment of the company's property to meet the demands of a large prospective increase of business. In pursuance of the terms of this mortgage, $12,000,000 par value of these bonds were issued and delivered to the New York Trust Company in part security of $8,000,000 of the company's 3-year 5% gold notes. These notes were sold at 95, realizing a sum of $7,600,000, applied in the retirement of the unsecured floating debt, the purchase of equipment and an extensive scheme of grade-reduction and other betterments.

Character and Stability of Traffic.

The road is largely a coal line and the report contains a table showing that the total capacity of the coal mines tributary to the road amounts to 27,830 tons per day. The average freight rates are low, .48c. in 1906, .50c. in 1905, the average train load in 1906 537 tons. Earnings have risen very rapidly since the reorganization of the road in 1899, as the following table reveals:

Year	Miles Operated	Gross Earnings	Per Mile
1899–0............	393	$2,670,025	$6,794
1900–1............	442	2,954,105	6,683
1901–2............	442	3,537,023	8,002
1902–3............	442	4,234,771	9,581
1903–4............	442	4,325,282	9,782
1904–5............	442	4,595,607	10,393
1905–6............	442	5,318,801	12,028

Maintenance.

Within this same period the traffic density has more than doubled and the same is true of maintenance, the items comparing as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1.......	963,094	$ 758	$ 889	$1,647
1901–2.......	1,317,327	1,183	1,207	2,390
1902–3.......	1,510,534	1,809	1,513	3,332
1903–4.......	1,456,603	1,555	1,623	3,178
1904–5.......	1,714,423	1,656	1,728	3,384
1905–6.......	2,191,627	1,793	1,972	3,765
Average	1,525,601	$ 1,459	$ 1,488	$ 2,947
N. Y. C. & StL	2,599,902	$2,156	$2,059	$4,215
Tol. St. L. & W	1,046,149	996	959	1,955
Panhandle....	2,193,454	2,567	3,680	6,247

It will be seen that traffic density compared, its maintenance charges were on about the same level as those of the Clover Leaf and about the same as the Nickel Plate, but not much more than two-thirds of the Panhandle.

Undoubtedly maintenance, especially for 1906, represented a considerable surcharge.

Surplus Earnings.

The nominal surplus shown after the charges indicated above have been as follows:

Year	Surplus	Per cent. Earned on 1st Pref.	Average Price 1st Pref.
1900–1	$146,950	3.5	52
1901–2	72,123	1.4	57
1902–3	12,680	.25	51
1903–4	63,654	1.2	45
1904–5	Def. 193,360		42
1905–6	152,397	3.1	42

The Balance Sheet.

As of June 30th, 1906, the balance sheet showed:

Current Assets	$3,701,967
Current Liabilities	3,589,630
Leaving a working balance of	$112,337

The item of cash on hand was $2,544,364 and the balance to credit of profit and loss was $406,796. In addition to the above assets noted there were advances for sundry extensions of $1,355,137.

Investment Value.

As noted under the Wabash analysis, the Wabash Terminal contract with the Carnegie Steel Company did not become operative until the close of the fiscal year of 1906. Undoubtedly the operations of this contract and the further completion of the connecting link between the Wabash Terminal and the Western Maryland line will add very heavily to the traffic of the Wheeling & Lake Erie; while the construction of the Oroville cut-off will reduce the maximum gradient of that part of the line from 53 feet to 21 feet, the maximum curvature from 9° to 3° and provide a line fitted for highly economical transport of freight. The approximate cost of this cut-off is estimated at $1,000,000.

It is evident that with rapidly increasing earnings the status of the Wheeling & Lake Erie securities might be very materially altered. It is evident that even in 1906 maintenance charges might have been sufficiently reduced to show a larger margin of safety for the interest payments; and the amount of the first preferred stock is small.

Both first and second preferred stocks are entitled to non-cumulative dividends of 4% per annum and 4% on the first pre-

ferred would require under $200,000; 4% on the second preferred would need $480,000 more.

It is evident that the road is shut up to bonds or notes for further capital issues and, as noted, the interest bearing debt is heavy. As increased traffic will require large capital expenditures it is evident that the question of dividends on either of the preferred stocks is rather remote.

The first preferred sold as high as $66 per share in 1902, declining to $40 per share in 1903 and to $22 per share in March of 1907.

The second preferred sold as high as $42 per share in 1902, declining to $20 in 1903 and to $14 in March of 1907.

The utility of the $20,000,000 common stock is not obvious. Yet it actually sold for $20 per share in 1902 and $21 in 1906, declining to $9½ in March of 1907.

WISCONSIN CENTRAL RAILWAY.

The Wisconsin Central operates a line of road from Chicago to Ashland on Lake Superior, with a branch to St. Paul and Minneapolis on the west, and to Manitowoc on Lake Michigan. It obtains entrance into Chicago over the tracks of the Illinois Central, and into Milwaukee over the Chicago, Milwaukee and St. Paul, and in St. Paul and Minneapolis over the Great Northern, these traffic arrangements, with the exception of the Milwaukee contract, being for ninety-nine years.

The road struggled along for years under a series of receiverships and bad managements, but in 1899 it came into new hands who undertook the upbuilding of the road, and since that time its growth has been steady. It is at present engaged in building an important extension to Duluth and Superior, which will give it a short and very direct line from Chicago to Duluth, and is expected very materially to enhance the fortunes of the road.

History.

The present company was chartered in 1897, and in 1899 acquired the properties of the Wisconsin Central and its subsidiary companies. The old company was in the hands of receivers from 1879 to 1887, when a new company was organized which lasted for six years, until 1893, when new receivers were appointed who carried on the road until it came into the hands of the present company in 1899. The road was utilized by the Northern Pacific as an outlet from St. Paul to Chicago in the old Villard days, and in 1890 a close traffic contract was altered to a ninety-nine year lease to the Northern Pacific. This lease was cancelled in the crash of 1893, and since that time the road has been operated as an independent line.

It is rather curious to reflect that the old Wisconsin Central was one of the roads in which John D. Rockefeller was supposed to have a principal interest, the other being the Missouri, Kansas and Texas, and both until recent years as badly managed roads as were to be found in the country.

In 1906 the company operated 977 miles of track, which will be slightly added to by the extension from Owen to Duluth. About half of this extension has been completed, and it was expected that the extension would be in operation in 1907. The road penetrates the great forests of Northern Wisconsin and reaches also into the iron regions, and its traffic is mainly made up of low grade mine and forest products.

In 1906 the syndicate headed by W. A. Bradford, president of the Chicago, Cincinnati and Louisville, and George M. Cumming, president of the United States Mortgage and Trust Company of New York, obtained control of the road, purchasing the stock of Maitland, Coppell and Company, Brown Brothers and Company, James C. Colgate and Company, and Edward Sweet and Company. This change brought about the retirement of president H. F. Whitcomb, William L. Bull, chairman of the board, James C. Colgate, Gerald L. White and John Crosby Brown, who had hitherto been dominant in the affairs of the new company. The new directors included George M. Cumming, New York, chairman of the board; William A. Bradford, Jr., of Cincinnati, president; T. L. Chadbourne, chairman of the executive committee; C. G. Rasmus, of the United States Mortgage and Trust Company; F. E. Dewey, Harry C. Starr, John F. Hill, Mark T. Cox and George A. Fernald of Boston, representing the syndicate in control; Fred T. Gates, representing Rockefeller interests and William F. Vilas, Madison, Wisconsin, formerly Secretary of the Interior.

It was stated at the time of the change that the purchase was not in the interests of the Canadian Pacific or of any of the larger lines, as had been rumored, and that the property would continue to be operated as an independent line. Mr. Bradford also stated that the fact of his being also president of the Chicago, Cincinnati and Louisville, was of no significance.

Capitalization.

One of the great difficulties under which the Wisconsin Central has always suffered is that under the successive reorganizations, the capital account was never scaled down, and in spite of a considerable increase in earnings, it is still very much over-capitalized. Deducting the amounts of common and preferred held in the treasury, the capitalization on June 30th, 1906, stood as follows:

Common stock (net)	$16,147,876
Preferred stock (net)	11,267,104
Total stock	$27,414,980
Funded debt	30,946,485
Total capital	$58,361,465
Rentals capit. at 4%	9,222,237
Approximate gross capitalization	$67,583,705
Approx. capital per mile	$69,174
Average miles operated	977
Net earnings on net capitalization	3.8%
Stock on net capitalization	40%
Fixed charges on total net income	69%
Factor of Safety	31%

The amounts of securities owned were too small to require consideration in the above tabulation.

It will be seen that the capitalization per mile for a road with gross earnings of only $7,285 per mile is very high. The estimated net capitalization of $69,174 per mile compares with $32,057 per mile for the Chicago and Northwestern and $33,900 per mile for the Chicago, Milwaukee and St. Paul, both with rather higher mileage earnings.

When net earnings are compared with the estimated net capitalization, the percentage shown amounts to only 3.8% as against 10.5% for the Northwestern, and 9.7% for the St. Paul.

The stock represents 40% of the estimated net capitalization, but the Fixed Charges consumed in 1906 nearly 70% of the total net income, leaving a Factor of Safety for the securities of only about 30%. These latter items further reflect the financial weakness of the road. A Factor of Safety of only 30% for the interest, rental and other charges on a small road in the midst of powerful competitors is insufficient, and it is this which has so weakened the credit of the road that it has been unable to secure new capital on favorable terms until very recently.

The Wisconsin Central has practically no outside holdings, and has therefore no equities worth mentioning.

Increase of Capitalization.

Since the reorganization of the road the capitalization has increased very slightly, the rentals paid have changed very little, and from the first full year of the operations of the new company the changes in nominal capitalization and earnings have been as follows:

Year	Common Stock	Preferred Stock	Funded Debt	Total Capital	Gross Earnings
1900......	$15,807,876	$11,151,605	$26,276,500	$54,143,981	$5,637,416
1906......	16,147,876	11,267,104	30,946,485	58,361,465	7,118,576

Increase of six years: Total capital, 7%; gross earnings, 31%.

Increase of 6 years: Total capital, 7%; gross earnings, 26%.

It will be seen that with a very slight increase in the nominal capitalization, the gross earnings have increased more than 25%. This is a very favorable showing.

Stability of Earnings.

The reports of the road do not itemize its traffic but as already stated it consists principally in the carriage of ores and lumber, and the average rate per ton-mile, .66c., is low for a road of that section. In spite of this the earnings have increased steadily and with very little increase of mileage are about 50% higher than in 1896-7. The items through a series of years appear as follows:

Year	Miles Operated	Gross Earnings	Per Mile
1896–7............	934	$4,179,971	$4,475
1897–8............	934	4,939,725	5,287
1898–9............	939	5,118,019	5,450
1899–0............	945	5,637,416	5,963
1900–1............	955	5,324,274	5,574
1901–2............	977	6,041,470	6,178
1902–3............	977	6,651,862	6,808
1903–4............	977	6,466,176	6,618
1904–5............	977	6,650,883	6,807
1905–6............	977	7,118,576	7,285

It will be seen that the earnings per mile have risen from $4,475 in 1897 to $7,285 in 1906. This is an excellent showing in the face of the heavy handicap under which the road has been operated and the low rate which it is able to obtain on its freight.

Maintenance.

Not a rich road and with a low average of earnings, the general standard of the Wisconsin Central both as to roadbed and equip-

ment is low. It had in 1906 only 184 engines and 8,751 cars, of which only 52, for example, were first class passenger cars. The standard of equipment is low and naturally the property does not require any such sums for maintenance as, for example, the North-western or the St. Paul, with which it directly competes. The comparisons of traffic density and maintenance for a series of years are as follows:

Year	Traffic Density	Maintenance per Mile		Total
		Way	Equipment	
1900–1	547,505	$659	$500	$1,159
1901–2	650,708	799	623	1,422
1902–3	753,692	780	736	1,516
1903–4	758,746	755	725	1,480
1904–5	758,037	886	795	1,681
1905–6	822,935	879	824	1,703
Average.......	715,270	$793	$700	$1,493
Northwestern..	640,983	991	858	1,849
St. Paul......	601,003	929	632	1,561

The average of maintenance is not very heavy. It will be seen that its traffic density is slightly higher than the average of either the North Western or the St. Paul, but it has nothing like the passenger earnings of these two roads, and the fact that its total for maintenance per mile is nearly up to that of the St. Paul indicates that maintenance has been perhaps adequate, though the standard of neither the St. Paul nor the North Western is high. It is probable that the road has spent all that it was able to spend, and in addition to this it has systematically turned back practically all of its surplus into improvements. The appropriations since the road came under its present management have been as follows:

1899-00	$450,747
1900-1	11,350
1901-2	124,990
1902-3	563,098
1903-4	643,574
1904-5	423,997
1905-6	373,420
Total	$2,591,176

Surplus Earnings.

The amount of surplus for six years, before the improvement charges noted above, and small sinking fund charges amounting to about $65,000 a year, have been as follows:

Year	Surplus	Per cent. Earned on Preferred	Average Price Preferred
1900–1	$246,117	2.2	44
1901–2	480,104	4.3	48
1902–3	724,072	6.5	44
1903–4	424,247	3.8	43
1904–5	555,844	5.	54
1905–6	802,188	7.2	54

It will be seen from this that the road has been able to earn a small percentage on its preferred stock, though no dividends have ever been paid.

The Balance Sheet.

At the close of the fiscal year of 1906 the balance sheet, excluding materials on hand showed:

Current assets	$1,346,224
Current liabilities	1,493,576
Leaving a nominal debit balance of	$147,352

In addition there were assets in the land department of $594,-350, and cash for reserve funds and appropriations, $392,796.

The balance sheet shows also construction loans to the amount of $1,199,000 against which there was cash in hand and securities deposited to the same amount. The assets also show construction funds on deposit of $1,244,621, so that adding these items together it appears that the company was fairly well off for working capital and provided with cash on its extension to Duluth.

Investment Value.

The preferred stock is entitled to non-cumulative dividends of 4% per annum and after 4% dividends have been paid on the common, in any year, both classes participate in any further dividend. As noted above no dividends have been paid.

The holders of the preferred stock have the right to elect a majority of the board of directors, whenever for two successive years the full 4% has not been earned and paid in cash. Although

the surplus shown through the six years has averaged 4.8% on the preferred, or sufficient to pay the full dividend, the shareholders have permitted these excess earnings to be turned back into the road for improvements, and the right of election of a majority of the board has not been exercised.

Wisconsin Central preferred sold as high as $57 per share in 1902, declining to $33 in 1903, and rising to $64 in 1906. It is to be supposed that the syndicate now dominating in the road has a working control, so that the value of the balance of the preferred held outside is very largely dependent upon the disposition of the controlling interests. The Great Northern and the Northern Pacific now have an outlet to Chicago through their ownership of the Burlington and the competition of the Central with the Northwestern or the St. Paul is not of such a character as to make it any great interest to these roads to control the property. The line to which the acquisition of the Wisconsin Central would probably be most useful is the Canadian Pacific or rather its subsidiary Minn., St. Paul & Sault Ste. Marie; but it is not very clear that an outlet for these lines to Chicago would be any decisive strategic advntage and it is not likely that control of the road could now be obtained at a price that would make it a very attractive purchase.

A six per cent. capitalization of its net earnings in 1906 would give the road a valuation of about $43,000,000, and deducting from this the funded debt of about $31,000,000 would leave $80 per share for the 4% preferred and about $20 per share for the common stock outstanding. Were 4% dividends paid on the preferred as they could have been paid in 1905 and 1906, as well as on the earnings of 1903, the preferred might sell at around the figure noted above, and should the road show under the new management the same steady progress it has shown in the six previous years, the preferred shareholders might reasonably expect a dividend. The average price of the preferred in 1906 was a little over $50 per share, and in March of 1907 it sold at $36. Purchased at any such considerable recession in prices the stock, if put away and held ought to show a steady enhancement in value and eventually a satisfactory yield in dividends.

The common stock is one of a numerous class of "low-priced" shares which are bandied about in the stock market and having no particular value other than prospects, rise and fall with the general rise and fall of prices. It sold as high as $33 per share in 1906, as low as $14 per share in 1903, and $16 in March, 1907. Purchased

at something like these figures, as a pure speculation, and held, it is apt to show a fair return to the purchaser who buys it simply for the purpose of selling it again when the general market rises. As an investment there is nothing in the progress of the road to indicate that it has any large prospects or any solid value.

YAZOO AND MISSISSIPPI VALLEY RAILROAD.

The Yazoo and Mississippi Valley is a subsidiary line of the Illinois Central, operating a network of railroads through the low lands of the Mississippi Valley, from Memphis to New Orleans, paralleling the main line of the Central. In 1906 it operated an average of 1,211 miles with gross earnings of $8,171,250.

Operating expenses, including taxes, were very heavy, amounting to 84% of the gross income, and leaving a very slight sum—$29,617—for surplus over Fixed Charges. This surplus was before any payment on the second mortgage on which no payment was made in either 1905 or 1906. The same is true of the $10,000,000 of land grant income bonds on which no interest has ever been paid.

Practically all of the stock and bonds of the road are owned by the Illinois Central.

It is evident that the operating charges were adjusted to absorb practically the entire available surplus over Fixed Charges. The maintenance charges were especially heavy in 1906, the appropriations for way amounting to $1,810 per mile, as against $1,553 for the year preceding.

The appropriations for maintenance of equipment amounted to $856 per mile in 1906, as against $781 in 1905. These charges on a road with gross earnings of $7,159 per mile and a traffic density of 640,167 ton-miles per mile of road were assuredly high.

The total of $2,664 per mile compares with $3,289 for the parent road, with nearly double the traffic density. It is not improbable that the road could be very amply maintained even on the Illinois Central standard at somewhere around $2,000 per mile. Probably operating expenses in 1900 concealed upwards of $700 per mile of legitimate earnings. This on the 1,211 miles of operated road would have shown a surplus of over $850,000 for the year above Fixed Charges, and this would have been sufficient to pay the regular 5% due on the second mortgage bonds and the sum of $350,000 additional on the interest in ar-

rears. This would have meant a matter of $850,000 added to the Other Income of the parent road.

The average rate per ton per mile received by the road is high, amounting to .82c in 1906, and .89c in 1905.

The Funded Debt on which charges are fixed amounts to only about $27,000 per mile, which on a road with average earnings of $7,000 per mile is not unduly excessive. The year of 1906 was not an exceptional year, the average earnings per mile showing a slight decrease from 1905. There is no apparent reason why operating charges should be 15% above the general average of 68% to 70% for American roads, save in the determination of the management to put earnings into improvements.

The road may therefore be regarded as an equity of steadily increasing value in the assets of the parent company.

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"The book deals in a clear, popular and entertaining way with the methods, terms and phases of Wall Street investing, giving rules for analyzing railroad securities and statements and explaining syndicates and reorganizations."—*Wall Street Journal.*

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The Investors' Primer. By John Moody, author of The Art of Wall Street Investing. This book is a complete guide for the security investor. It is both descriptive and explanatory, and is so arranged as to be of the greatest practical use to the man who wants to know, not merely the A B C of Wall Street, but also all about the methods, customs and rules followed by brokers and bankers in judging, investing in, and buying and selling securities. Not theoretical, but thoroughly practical. Price, $1.50 net. By mail, $1.62.

The Cycles of Speculation. By Thomas Gibson. This book enters more deeply into the subject than the Pitfalls of Speculation, and it may be called a sort of second reader in its relation to the Pitfalls. Nevertheless all subjects covered are discussed pre-eminently as to their bearing on the speculative phase of the matter. The first chapter gives a brief detail of the principal crises and panics from the beginning of the nineteenth century to date with an analysis of their causes. Periodicity and its reasons are discussed. Several points of value to the speculator are developed, such as the fact that stocks reach their pinnacle a year or more prior to panics; that pig iron production usually breaks records in the year before a depression, etc. The second chapter deals with the all important question of gold production. Here again the subject is treated particularly with regard to speculative effects. The varying effects on railroad and industrial securities and bonds is covered, and numerous opinions of leading authorities are quoted. In other chapters monetary conditions, crop failures, political influences, etc., are discussed from a fundamental standpoint and the purely speculative phases of the subject are given due consideration in chapters on scalping, short-selling, etc. The work closes with a history of the panic of 1857 and includes a bibliography of books useful to the student of speculation and investment.

The object sought in this work is to explain the basic as well as the technical causes of price movements and to so simplify them as to permit of a clear understanding of what is now more or less involved to the layman. Price, $1.50 net. By mail, $1.62.

Mining Investments and How to Judge Them. By Clinton McCormack. The object of this book is to so enlighten the minds of the average mining investor or prospective investor that he or she may be able to apply certain rules of analysis to any mining proposition and thus avoid the dangers of misrepresentation, superficiality and other conditions which go to make the business of investing in mining stocks the most risky and dangerous form of investing. It is probably true that at least 90 per cent. of those who invest in mining stocks soon or later lose their money. Of the remaining 10 per cent. not more than one-tenth ever realize their expectations. In this little book the investor is at least given an opportunity to see where most of the dangers and pitfalls lie, and if he follows the rules which are carefully laid down as a guide he will then be able to confidently feel that a large element of risk has been eliminated.

In addition to the above the book contains chapters on the different mining camps of the world, and gives much practical information on modern methods of mining, with statistics showing the vast growth during recent years of copper, gold and silver production. It is the only work of this kind of a practical nature published in this country at a popular price. Price, $1.00 net. By mail, $1.10.

MOODY'S MANUAL

OF

Railroads and Corporation Securities for 1907.

EIGHTH ANNUAL EDITION

Steam Railroad Division. In this division, to which nearly 900 pages are given, a statement is published of every steam railroad company in the United States, and nearly every company in Canada, Mexico and Cuba. In all, 256,301 miles of main track is represented, covering no less than 1,512 actual operating corporations. The par value capitalization represented in this division is $15,436,297,000, of which $5,978,412,000 is in stocks and $9,458,-885,000 in bonds. In each case a full description of the property is given, including location, mileage, etc.; capitalization figures are furnished with complete dividend record, transfer agents, etc.; bonded debt is especially complete, detailed descriptions being given of all bond issues. Over 2,250 issues are completely described. Financial statements are given in practically every case, showing earnings, balance sheets, surplus, and all other essential facts. Lastly, complete lists of both officers and directors, with addressses, are appended to each statement. In short, the steam railroad division of the book furnishes a complete statistical and investment record of the entire steam railroad industry of America months in advance of the publication of the Interstate Commerce Commission's report or any other reference manual. Practically all of the important systems are supplemented in their statements by up-to-date colored maps, this being an especially strong feature of the 1907 edition. Other features of value in this section, include lists of new lines under construction or projected, lists of absorbed roads, and also special descriptions of all the guaranteed stocks.

Public Utilities Division. This division is sub-divided into four sections under the following special heads: Electric Tractions, Gas, Electric Light and Power Companies; Water Supply Companies, Telephone, Telegraph and Cable Companies. Over 800 pages are given to the statements of corporations of this nature, and more than 2,800 of such corporations are described. These include over 1,100 electric traction companies operating more than 31,000 miles of track; 1,130 gas, electric light and power companies; 267 water supply companies and 259 telephone, telegraph and cable companies. The total capitalization represented in this division is $8,129,534,000, of which $4,455,454,000 is represented by stocks and $3,675,010,000 by bonds. As in the steam railroad division the descriptions in each case cover a statement showing location and character of the property, capital stock with dividends paid, transfer offices, etc.; bonded debt with full descriptions; financial

statements, showing comparative balance sheets and income accounts whereever obtainable; complete lists of officers and directors with addresses, etc.

In every department of the Public Utilities division, the Manual furnishes far more information than any other publication of its kind in the world. There are several other publications furnishing investment information on electric traction companies, but none are so complete or up-to-date as Moody's Manual. Many of the larger statements are supplemented with handsome colored maps as in the case of the steam railroad systems. In the gas, electric light, water and telephone sections, the field is occupied almost exclusively by Moody's Manual. No other publications make a pretense of furnishing investment information over this wide area. Bankers and investors in both this country and Europe regard Moody's Manual as the only authoritative source from which to secure information on gas, electric light and telephone investments. Additional features of value in the division include lists of new traction lines projected or under construction and a complete alphabetical list of absorbed or consolidated corporations.

Industrial Division. The information supplied in this division embraces 1,510 corporations, of which 1,456 are in the United States, the balance being in Canada, Mexico and Cuba. The corporations are all of a manufacturing or commercial nature, and include also coal mining and iron mining properties, as well as steamship lines and other transportation organizations outside of steam railroads and tractions. The total capitalization represented in this division amounts to $10,156,332,000 of which $9,849,833,000 is located in the United States. Moody's Manual has always been known as the only complete and thoroughly reliable publication on the subject of industrial corporations, but in the 1907 edition, especial effort has been made to cover these corporations in an even more comprehensive and useful way and the statements embrace, not only the usual descriptions of the properties with capitalizations, earnings, etc., but in every case possible uniform balance sheets with comparative income accounts are given. In addition, there is appended to each statement a list of the officers and directors of the company with addresses, etc. A complete list of absorbed or consolidated corporations is printed at the end of the division. About 500 pages are devoted to this division.

Mining Division. In the division on mines 880 active mining corporations are reported and full statements given. These active corporations represent a capitalization in stocks and bonds of $2,525,113,000, and include 379 gold mines, 308 copper mines, as well as a large number of mines producing silver, lead, cobalt, zinc, etc. There is one sapphire mine reported, one ruby mine and one meerschaum mine.

No satisfactory directory or manual of mining companies has heretofore been published in this country, and this year Moody's Manual has made a special effort to cover this field, confining its descriptions, of course, to genuine active companies, which are producers or are under legitimate development.

Bank and Trust Company Division. This division is practically an American Banking directory arranged alphabetically by states, with the added feature of useful investment information. In all cases where possible the par value of bank stocks is given with the amounts and dates of dividends paid. In addition, the capital stock, surplus and resources of the banks are

shown and the names of president and cashier are reported. As a large and steadily increasing proportion of the funds of American investors is going into bank and trust company's stocks it is becoming increasingly necessary that the essential facts regarding the prices and values of these stocks be given uniform publicity in some authoritative way. This the 1907 Manual does in a more complete sense than any other publication.

Alphabetical Index. The Alphabetical Index of the volume is placed in the front of the book, in order to be found with little effort. It is the key to the entire volume and embraces the title of every corporation described in the book, as well as every sub or controlled corporation having a separate existence; every bond or stock of different title than the controlling corporation and every other separate subject or title of any nature in the volume. The entire index is so clearly and simply arranged that it is practically impossible not to find the facts for which the user may be searching. It is the acme of complete indexing.

To supplement the alphabetical index a special index arranged alphabetically by cities is also furnished. This is of great value to any one who, in searching for a statement, may be familiar with the location of a corporation, but not the name.

Supplementary Information. Although Moody's Manual is issued but once a year, the user is enabled to keep up to date on all important information through the investment news department of Moody's Magazine, which is published monthly, supplementing the Manual in every important respect. Every event of importance in the corporate or investment line is given as it occurs in the pages of the Magazine, and proper indexing is provided in the Magazine news reports to indicate the connection with the original statements in the foregoing edition of the Manual.

The Combination Price. The price of the 1907 edition of Moody's Manual, delivered to any part of the United States, Canada or Mexico, and including Moody's Magazine as a supplement for the entire year, is $12 for the cloth edition and $14 for the leather edition. The Manual is now ready and embraces about 3,000 pages; the Magazine appears on the first of every month, each issue embracing 150 pages, making a total for the year of about 1800 pages. In all, therefore, the purchaser will receive in the course of a year nearly 5,000 pages of investment news and information of the most up-to-date, exhaustive and authoritative character at the cost of only $12 per annum. Price of Manual without Magazine, $10 in cloth and $12 in leather.

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